

# Mono County Resource Efficiency Plan

8/1/2014

Final



## Acknowledgements



*Mono County  
Community Development Department  
Post Office Box 347  
Mammoth Lakes, CA 93546  
(760) 924-1800*

### **Prepared for Mono County by:**



*Pacific Municipal Consultants  
2729 Prospect Park Drive, Suite 220  
Rancho Cordova, CA 95670*

Table of Contents

**1. Introduction..... 1**

    Purpose and Scope ..... 2

    Local Context..... 3

    Local Efforts to Date ..... 4

    Regulatory Framework ..... 5

    Relationship to the General Plan ..... 7

    Resource Efficiency Planning Process ..... 7

**2. Emissions Sources, Forecasts, and Targets ..... 9**

    Baseline Resource Consumption and GHG Emissions..... 11

    Growth Indicators and Forecasts ..... 14

    Greenhouse Gas Emissions Forecasts ..... 15

    Resource Efficiency Targets ..... 16

**3. Resource Efficiency Measures ..... 19**

    Process and Structure ..... 19

    Goals, Objectives, Policies, and Actions ..... 20

    Quantification Methods..... 20

    Resource Efficiency Metrics and Community Benefits ..... 21

    Resource Efficiency Metrics ..... 41

**4. Implementation..... 43**

    Monitoring and Updating this Plan ..... 43

    Tracking Success..... 44

    Work Plan ..... 44

**5. Sources ..... 49**

**A. Technical Memos ..... 53**

## List of Figures

Figure 1: Mono County Resource Efficiency Planning Motivations .....	2
Figure 2: Regulatory Framework for Resource Efficiency .....	5
Figure 3: Five-Step Resource Efficiency Planning Process.....	7
Figure 4: 2010 Emissions Profiles* .....	10
Figure 5: 2010 Government Operation Emissions by Sector .....	12
Figure 6: 2010 Community Emissions by Sector .....	13
Figure 7: 2010–2035 County Operations Emissions Forecast .....	15
Figure 8: 2010–2035 Community Emissions Forecast .....	16
Figure 9: 2020 Resource Efficiency Targets.....	17
Figure 10: REP Policy Structure .....	20
Figure 11: Emissions Quantification Sources and Tools .....	21
Figure 12: 2020 Annual Resource Efficiency Summary.....	41

## List of Tables

Table 1: Mono County Communities (with 2010 Population) .....	3
Table 2: 2010 Residents, Visitors, and Effective Annual Population .....	11
Table 3: 2010–2035 County Government Employee Estimates .....	14
Table 4: 2010–2035 Community Growth Indicators .....	14
Table 5: 2020 Estimated Emissions Reductions .....	41
Table 6: Mono County Resource Efficiency Plan Work Plan .....	45

## **List of Abbreviations**

<b>Abbreviation</b>	<b>Definition</b>
AB	Assembly bill
C	Conservation Element
CAPCOA	California Air Pollution Control Officer's Association
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFL	compact fluorescent light bulb
CO	Conservation and Open Space Element
DOF	Department of Finance
E.O.	Executive order
EDD	Employment Development Department
EPA	Environmental Protection Agency
GBUAPCD	Great Basin Unified Air Pollution Control District
GHG	greenhouse gas
GPS	global positioning system
HVAC	heating, ventilation and air conditioning
IMACA	Inyo Mono Advocates for Community Action, Inc.
kW	kilowatt
kWh	kilowatt hour
LED	light-emitting diode
LGOP	Local Government Operations Protocol
LU	Land Use Element
MTCO <sub>2</sub> e	metric tons of carbon dioxide equivalent
MW	megawatts
PACE	property assessed clean energy
REP	Resource Efficiency Plan
RPS	Renewables Portfolio Standard
SB	Senate bill
SCE	Southern California Edison
SGC	Strategic Growth Council
VMT	vehicle miles traveled



## 1. INTRODUCTION

In 2012, Mono County was awarded a Sustainable Communities Planning Grant from the California Strategic Growth Council (SGC) to prepare a targeted update to the County's General Plan, including a Resource Efficiency Plan (REP; Plan).

This REP presents Mono County's path toward creating more sustainable, healthy, and livable communities. The strategies outlined in this Plan will reduce greenhouse gas (GHG) emissions and provide energy, fuel, water, and monetary savings while improving the quality of life for residents in Mono County.

The REP includes the following:

- An explanation of local context and the framework under which this Plan was created (**Introduction – Chapter 1**);
- An assessment of local activities that consume resources and generate GHG emissions (**Emissions Sources, Forecasts, and Targets – Chapter 2**);
- Mono County's strategy to improve resource efficiency and reduce GHG emissions (**Resource Efficiency Measures– Chapter 3**);
- The steps necessary to successfully implement this REP (**Implementation– Chapter 4**).

### What is the Resource Efficiency Plan?



A plan to help residents and businesses save energy and money



A strategy to support local sustainability initiatives in small and rural communities



A local tool to comply with California climate change legislation

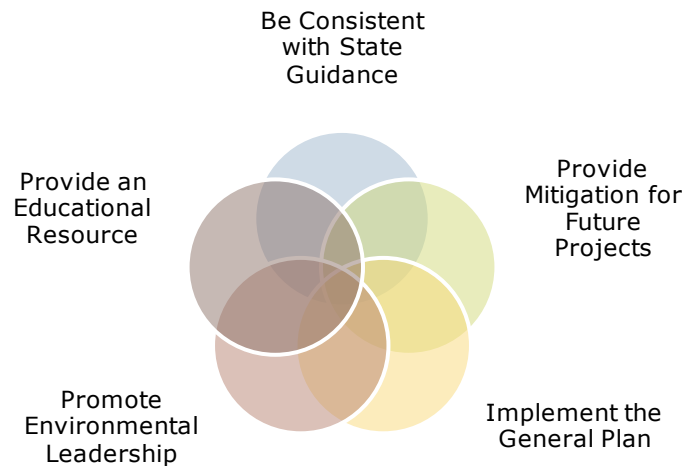


## Mono County Resource Efficiency Plan

---

In developing this REP, the County recognizes the compelling need for a locally based approach to maximize the efficient use of resources and reduce emissions within the community and from government operations. **Figure 1** identifies some of the County's motivations to prepare the REP. With this plan, the County charts a comprehensive strategy to further improve resource efficiency in a manner consistent with state guidelines and regulations, and to afford cost-effective opportunities to existing and future residents, businesses, and development projects to contribute to a more sustainable community. The REP also provides a framework for environmental leadership and an educational resource to the community.

**Figure 1: Mono County Resource Efficiency Planning Motivations**



## Purpose and Scope

The purpose of the REP is to identify sources of GHG emissions occurring in the unincorporated county and to establish policies and programs that reduce emissions within the County's jurisdictional or operational control. These sources include energy use, water consumption, transportation, waste disposal, and agricultural practices. They specifically exclude naturally occurring emissions sources such as wildfires.

The REP includes baseline GHG inventories for both County government operations and for the community at-large for the calendar year 2010. A 2005 inventory prepared for community activities is used as a starting point for calculating GHG emissions reduction targets consistent with Assembly Bill (AB) 32, while the 2010 inventories provide a current baseline for environmental analysis under the California Environmental Quality Act (CEQA). GHG emissions from Mono County government operations in 2010 totaled approximately 15,050 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e) emissions. GHG emissions within the broader unincorporated areas totaled 140,310 MTCO<sub>2</sub>e in 2010. Without action to reduce emissions, by 2020, County government emissions would increase by 17% to 17,560 MTCO<sub>2</sub>e per year, while community-wide emissions would increase by 6% to 148,220 MTCO<sub>2</sub>e per year.

The REP proposes approximately 120 actions relevant to the rural and mountainous nature of the county. They include implementing net-zero energy policies for County facilities, replacing and consolidating vehicles in the County fleet, and strategic opportunities to improve resource efficiency by residents, businesses, and visitors. REP actions are estimated to reduce emissions to 111,620 MTCO<sub>2</sub>e per year, achieving a 10% reduction below 2005 emissions levels (124,150 MTCO<sub>2</sub>e) by 2020. In addition, the REP proposes a goal to implement projects accounting for 38 megawatts (MW) of additional renewable energy over baseline conditions. This would result in additional 2020 GHG emissions reductions of 108,200 MTCO<sub>2</sub>e per year to those realized locally in Mono County.



The proposed REP policies are structured to become a part of the County's General Plan. Goals, objectives, policies, and actions are presented for use in the Conservation and Open Space, Circulation, and Land Use elements.

## Local Context

Located between the Sierra Mountain range and the Nevada state line, Mono County is a rural California county characterized by a small year-round population, a tourism-based economy, a considerable amount of land under federal or state ownership, and a diverse range of climate conditions. Identifying and achieving sustainability goals in Mono County requires a unique approach. This REP is designed to highlight the County's rural setting, small communities, and remote location.

**Rural Character and Limited Access** - Development in and access to Mono County have traditionally been limited by the distance from nearby metropolitan areas (six hours by car to Los Angeles or San Francisco, three hours to Reno) and limited transportation access. US Route 395, the county's primary transportation route, runs the entire length of the county, while State Route 120 and US Route 6 connect the county to Nevada, Yosemite National Park, and California's Central Valley, over routes that are frequently closed during winter months due to snow accumulation. The Eastern Sierra Transit Authority and Yosemite Area Regional Transit System operate intercity bus service along the US 395 corridor.

**Community Planning Areas** - More than half of Mono County's approximately 14,000 full-time residents live in Mammoth Lakes, the only incorporated community in the county. The other 6,000 year-round residents live in a number of small communities distributed throughout the county, as shown in **Table 1**.

**Table 1: Mono County Communities (with 2010 Population)**

Community	2010 Population
Town of Mammoth Lakes	8,234
Antelope Valley	1,266
Bridgeport Valley	575
Mono Basin	394
June Lake	629
Long Valley/Wheeler	1,536
Tri-Valley	931
County outside of CDPs	637
<b>Mono County Total</b>	<b>14,202</b>

*Source: Mono County Regional Transportation Plan 2013.*

**Tourism-Based Economy** - Mono County attracts more than 1.5 million visitors annually from all over the world. Tourism is the dominant sector of the local economy, generating an estimated \$451 million in direct travel spending in 2011 (CTTC 2013). Major destinations include the Mammoth Mountain and June Lake resorts, the unique ecosystem of Mono Lake, and the ghost town of Bodie.

**Federal and State Land Ownership** - Approximately 94% of the land in Mono County is publicly owned, consisting of 88% by the federal government and 6% by the state of California, the Los Angeles Department of Water and Power, or Native American tribal groups.

**Seasonal Conditions** - As with most communities located at elevations higher than 6,000 feet in or near the Sierra Mountain range, Mono County is exposed to a variety of weather conditions and dramatic temperature swings. The County receives an average of 47 inches of snow and 12 inches of rain annually. Mono County also has an average of 277 sunny days per year.

### **Local Efforts to Date**

Many great efforts have already been made and numerous policies have been adopted to promote resource efficient practices and reduce emissions throughout Mono County. Prior to the REP, these practices and policies have existed in a variety of different documents and/or implemented by County staff through informal practices. The REP compiles these efforts into one document and will serve as a go-to resource for best practices for the County and community to reduce individual and collective resource consumption and emissions.

### **County Resource Efficiency Actions**

The County has established an Energy Task Force and implemented numerous energy efficiency actions at County facilities, including:

#### **2009**

- Benton Crossing landfill solar system installation.
- Installation of a new high efficiency Annex I boiler system.

#### **2010**

- Crowley Lake Community Center new boiler and inline hot water system installation.

#### **2011**

- Annex I argon-filled dual pane high efficiency window replacement and exit light conversion to light-emitting diode (LED).

#### **2012**

- Installation of a Honeywell Excel 5000 control system for heating and cooling at Annex II.
- Annex II argon-filled dual pane high efficiency window replacement.
- Annex II commercial fan and passive ventilator installation.
- Annex II new thermostat, zone control, ducting, and Honeywell Excel 5000 control system installation.
- Benton Community Center 90% efficiency heating, ventilation and air conditioning (HVAC) system installation.
- Walker Wellness Center 90% efficiency HVAC system, new ducting and insulation installation.
- Road shop exhaust pollution removal systems installations.

#### **2013**

- Annex II high efficiency boiler system and in-line hot water system installation.
- Old hospital boiler system reconfiguration.
- Solar photovoltaic and solar hot water installations at the Lee Vining Community Center (7.5 kW) and Crowley Lake Community Center (3.5 kW).

### **Community Resource Efficiency Efforts**

Recent initiatives led by the County or supported by community and partner agencies to conserve natural resources, improve energy efficiency, and reduce GHG emissions include the following:

- Mono County has adopted new policies to waive permit fees for energy efficiency and distributed generation projects.
- The County has signed on to allow residents and businesses to participate in the California HERO (property assessed clean energy (PACE)) program.
- Prescriptive designs for ground-mounted solar and roof-mounted solar (in process) are available to County residents to simplify renewable energy installation and permitting.
- The County worked with the Eastside Biomass Project Team to complete a biomass utilization feasibility study.
- The County developed a Low Impact Development/Green Development Guide as part of its Design Guidelines.

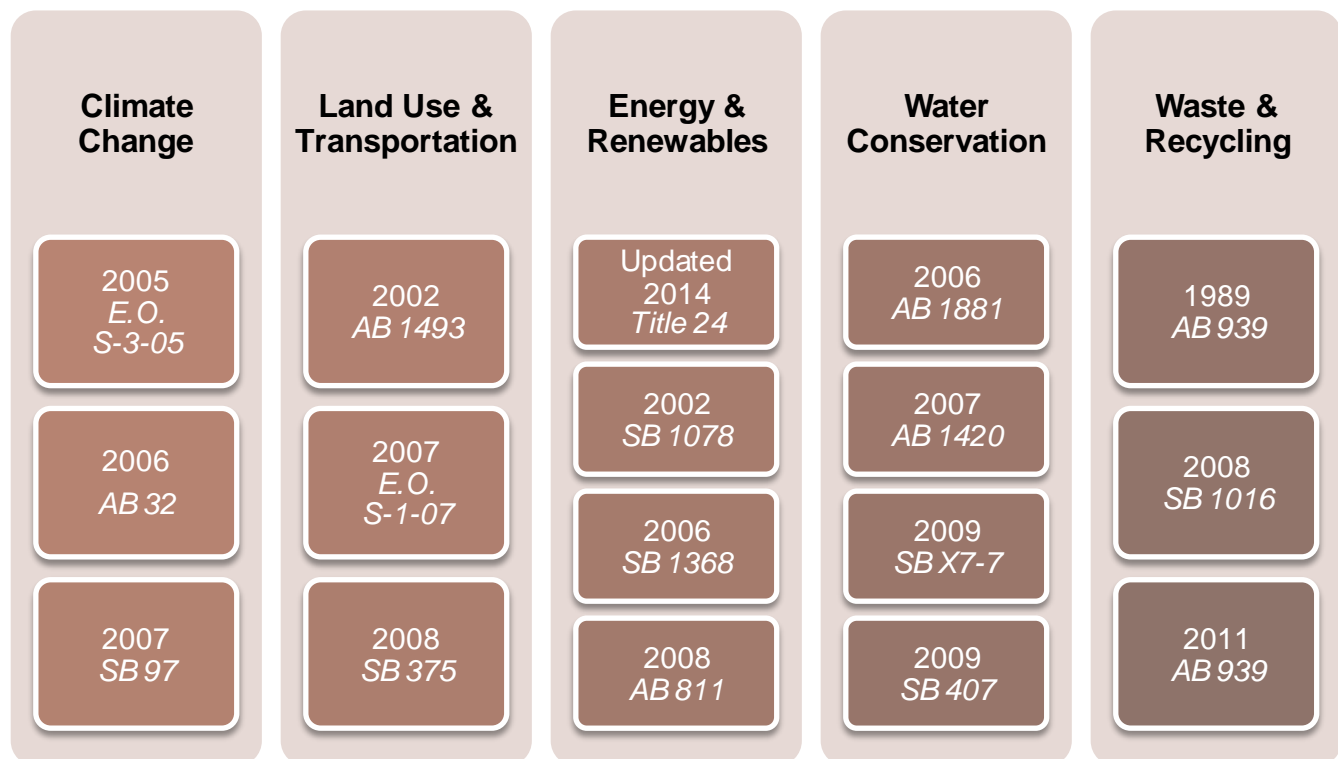
- Inyo Mono Advocates for Community Action (IMACA) provides energy conservation and weatherization programs for homes in Mono and Inyo County.
- High Sierra Energy Foundation provides energy retrofits and Title 24 compliance training programs.
- Great Basin Unified Air Pollution Control District (GBUAPCD) operates an Environmental Protection Agency (EPA)-certified wood stove exchange program.
- Land acquisition and conservation easement efforts by resource management agencies have reduced or eliminated development potential in certain areas.
- The County recently completed a US 395 road diet and pedestrian-friendly enhancements in Bridgeport.

## Regulatory Framework

The state of California is the 15th largest emitter of greenhouse gases in the world, ultimately accounting for 2% of global GHG emissions. However, the state has been proactive in working to reduce emissions and has a long history of proven leadership in addressing energy and climate issues spanning the last 40 years. Numerous initiatives in California address climate change, with the majority of legislation passed between 2000 and the present day. These initiatives have strengthened the ability of entities in California to engage in accurate data collection and have created ambitious targets and regulations that have and will continue to reduce resource consumption and GHG emissions.

California's efforts have established the state's role as the leader in the United States for climate planning strategies, and have garnished worldwide attention and accolades. Efforts to address climate change, reduce consumption of resources, and improve energy efficiency led by state legislation or programs are described in **Figure 2**.

**Figure 2: Regulatory Framework for Resource Efficiency**



### **Executive Order S-3-05**

In 2005, then-Governor Arnold Schwarzenegger signed Executive Order (E.O.) S-3-05, declaring that California is vulnerable to the impacts of climate change through reductions in the Sierra Nevada snowpack (a major source of water for the state), reduced air quality, and rising sea levels. E.O. S-3-05 also sets the following GHG reduction goals for the state:

- Reduce emissions to 2000 levels by 2010
- Reduce emissions to 1990 levels by 2020
- Reduce emissions to 80% below 1990 levels by 2050

### **The California Global Warming Solutions Act of 2006 (AB 32)**

The California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32, codifies the goals set in E.O. S-3-05 and sets a target for the state to reduce its total GHG emissions to 1990 levels by 2020 through a series of market-based and regulatory mechanisms. These mechanisms are discussed in the AB 32 Scoping Plan, developed by the California Air Resources Board (CARB) and released in 2008. Actions in the Scoping Plan include producing 33% of the state's electricity from renewable sources by 2020, implementing clean car standards, and developing a cap-and-trade program for major stationary sources. The Scoping Plan also identifies local governments as strategic partners to achieve the statewide reduction goal and establishes a GHG emissions reduction of 15% below existing levels as being comparable to a return to 1990 levels.

AB 32 requires CARB to update the Scoping Plan at least once every five years. The first major update to the Scoping Plan was adopted by CARB on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG emissions reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal established in E.O. S-3-05, though not yet adopted as state law, and observes that "a mid-term statewide emission limit will ensure that the state stays on course to meet our long-term goal." The Scoping Plan update does not establish or propose any specific post-2020 goals, but identifies such goals adopted by other governments or recommended by various scientific and policy organizations.

### **2007 Amendments to the State CEQA Guidelines (SB 97)**

Senate Bill (SB) 97, signed in 2007 and effective in 2010, requires projects to estimate GHG emissions associated with project-related vehicle traffic, energy use, water use, and construction activities as part of the environmental review process under CEQA. Projects located in jurisdictions with a Qualified GHG Reduction Strategy can streamline GHG evaluation by showing compliance with the strategy. A Qualified GHG Reduction Strategy must satisfy the following six requirements identified in State CEQA Guidelines Section 15183.5(b):

- a) Quantify GHG emissions, both existing and forecast over a set time period, from activities within a defined geographic area.
- b) Establish a level below which GHG emissions from activities covered by the plan are not cumulatively considerable, based on substantive evidence.
- c) Identify and analyze the GHG emissions as a result of specific actions or categories of actions anticipated within the defined geographic area.
- d) Specific measures or a group of measures, including performance standards, which would collectively achieve the specified emissions level if implemented on a project-by-project basis, as demonstrated by substantive evidence.
- e) Establish a mechanism to monitor the plan's progress toward achieving the level and to require revisions to the plan if it is not achieving the specified levels.
- f) Be adopted in a public process following environmental review.

All six requirements are addressed through development and adoption of this REP.

## Relationship to the General Plan

The REP has been developed in conjunction with the Mono County General Plan update to identify sources of GHG emissions occurring in the unincorporated county, and establishes policies and programs to reduce resource consumption and associated emissions within the County's jurisdictional or operational control.

REP policies, actions, and reduction targets will become a part of the Mono County General Plan. Embedding GHG reduction and resource efficiency targets in a general plan affords a local government considerable discretion to craft an approach that responds directly to its local conditions and circumstances. California Government Code Sections 65300.7 and 65301.5 establish the Board of Supervisors' legislative authority regarding the general plan, and its ability to exercise discretion to tailor the contents of the general plan to fit local conditions and circumstances, so long as general plan policies and actions meet minimum requirements of state legislation. When the County addresses GHG emissions within the context of the Draft General Plan, this same authority and discretion extend to (a) setting a GHG reduction target, (b) identifying emissions reduction strategies to achieve the target, and (c) determining the desired degree of participation needed to achieve the target, considering local conditions and circumstances.

While local governments serve an important role as strategic partners in achieving California's GHG reduction goals identified in the AB 32 and E.O. S-3-05, there is currently no regulatory requirement for Mono County to set a specific fair-share GHG reduction goal, nor are there penalties imposed for falling short of established goals. While compliance with AB 32 is not a requirement for local jurisdictions, demonstrating consistency with statewide reduction goals can help Mono County to qualify for incentives such as grant funding.

### ***Mono County General Plan Vision***

The environmental and economic integrity of Mono County shall be maintained and enhanced through orderly growth, minimizing land use conflicts, supporting local tourist and agricultural based economies, and protecting the scenic, recreational, cultural, and natural resources of the area. The small-town atmosphere, rural-residential character and associated quality of life will be sustained consistent with community plans. Mono County will collaborate with applicable federal, state, and local entities in pursuing this vision through citizen-based planning and efficient, coordinated permit processing.

## Resource Efficiency Planning Process

The County developed this REP using the iterative five-step process described in **Figure 3**. This document fulfills steps one through three and provides a framework to complete steps four and five. Step five, evaluating progress, helps the County estimate the effectiveness of this REP on an annual basis and determine if additional measures should be implemented.

**Figure 3: Five-Step Resource Efficiency Planning Process**



The remainder of this document elaborates on how the County has or will complete each of the steps in the process and achieve the resource efficiency targets.





## 2. EMISSIONS SOURCES, FORECASTS, AND TARGETS

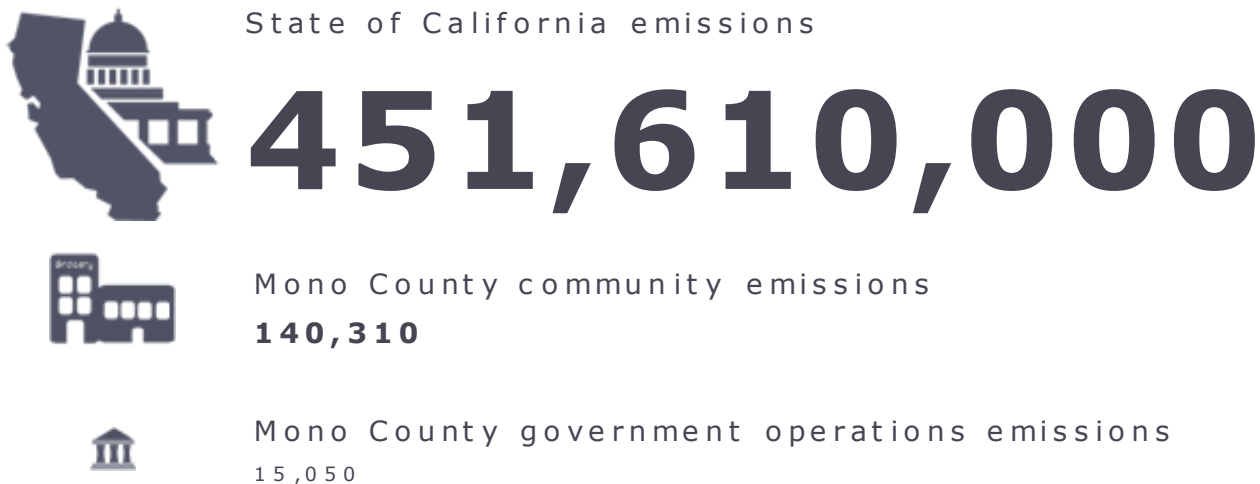
This component of the REP establishes a baseline for the calendar year 2010 by inventorying GHG emissions occurring in the community and from County operations. The inventory collects information on resource consumption patterns (activity data), calculates the resulting GHG emissions (baseline greenhouse gas emissions), identifies likely changes or growth in future resource consumption (growth indicators and forecasts), and assists in determining the needed reductions in GHG emissions and resource consumption (resource efficiency targets).

As part of the REP planning effort, the County completed GHG emissions inventories for 2005 and 2010. The local resource consumption and emissions profile of both the community and County government operations, as well as California's statewide emissions, are identified in **Figure 4**.

State, community, and government operations inventories should be considered as subsets of one another. County government activities often occur wholly or partially within the unincorporated county and thus are included in the aggregated community activity data and resulting emissions. Likewise, community emissions identified in the unincorporated county are a part of the California statewide inventory. The relationship between the three inventories illustrates the scale at which Mono County contributes to California's emissions, and emphasizes the shared role of the state, community, and County government to reduce emissions.



Figure 4: 2010 Emissions Profiles (MTCO<sub>2</sub>e)



In California, many communities utilize the CARB Local Government Operations Protocol (2010), commonly referred to as LGOP, to identify and assess GHG emissions from local government activities. The County operations and community inventories for Mono County are consistent with the US Community Protocol and LGOP. While these protocols are not regulatory, they identify relevant sources or activities, recommend methods to estimate GHG emissions from each source, and provide consistency in the identification, assessment, and presentation of emissions results across multiple jurisdictions.

### Effective Annual Population

Several data items used to estimate GHG emissions from energy use and transportation occurring in Mono County are only available at the countywide level (i.e., they include both unincorporated Mono County and the Town of Mammoth Lakes). While population and households are often appropriate metrics used to estimate emissions within a city or county, the influence of visitors and tourism on the local economy in Mono County dictates the need for a modified approach that considers how tourism affects energy use, travel patterns, and resulting GHG emissions.

To ensure countywide emissions sources and activities are appropriately assigned to the Town of Mammoth Lakes and to unincorporated Mono County, effective annual population metrics that account for both permanent residents and visitors have been identified for 2005 and 2010 (see **Table 2**). These metrics rely on 2010 US Census data for the year-round resident populations of the town and county, in addition to data from Mono County's *Economic Impact Visitor Profile Study* (2008), the California Travel and Tourism Commission's *Annual Report on Travel Impacts by County* (2011), and the Mammoth Community Water District's *Urban Water Management Plan* (2011) to estimate annual visitors. This effective annual population metric has been applied to propane use, water use, and on-road transportation to assign countywide results to the unincorporated county.



The Town of Mammoth Lakes has already determined an effective annual population. The unincorporated county effective annual population uses countywide tourism for the effective population for all of Mono County, then subtracts the effective population of Mammoth Lakes.

**Table 2: 2010 Residents, Visitors, and Effective Annual Population**

2010		
Resident population	Town of Mammoth Lakes	8,234
	Unincorporated County	5,968
	Mono County Total	14,202
	% in unincorporated	42%
Annual visitor days	Town of Mammoth Lakes	3,104,325
	Unincorporated County	1,899,603
	Mono County Total	5,003,928
	% in unincorporated	38%
Adjusted visitor population (annual visitor days divided by 365)	Town of Mammoth Lakes	8,505
	Unincorporated County	5,204
	Mono County Total	13,709
	% in unincorporated	38%
Effective annual population	Town of Mammoth Lakes	16,739
	Unincorporated County	<b>11,172</b>
	Mono County Total	27,911
	% in unincorporated	<b>40%</b>

Note: Numbers may not appear to total correctly due to rounding.

## Baseline Resource Consumption and GHG Emissions

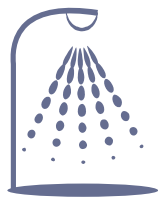
The following section describes the sources, methods, and results for calculating emissions from each activity analyzed in the County government operations and community inventories. This information and activity data also provide the technical foundation for assessing the effectiveness of future policies and programs at reducing both GHG emissions and the consumption of resources.

### County Government Operations

Consistent with the LGOP, Mono County's government operation emissions inventory identifies the emissions from activities under the County's operational control. Activities included in the government operations inventory include facilities, public lighting, vehicle fleet and equipment, solid waste, and employee travel.

GHG emissions from Mono County government operations in 2010 totaled approximately 15,050 MTCO<sub>2</sub>e, as shown in **Figure 5**. The solid waste sector, including landfills operated by the County, represented the largest source of emissions, accounting for 10,230 MTCO<sub>2</sub>e, or 68% of all County government operation emissions. The second largest source of emissions was the County's vehicle fleet and equipment (1,800 MTCO<sub>2</sub>e, 12%), followed by emissions from employee travel (1,560 MTCO<sub>2</sub>e, 10%), and energy used at County facilities (1,410 MTCO<sub>2</sub>e, 9%). The remaining government operation emissions (50 MTCO<sub>2</sub>e, less than 1%) were attributed to public lighting, which includes streetlights owned or maintained by the County.

**Figure 5: 2010 Government Operation Emissions by Sector**



Facilities	Public lighting	Vehicle fleet & equipment	Solid waste	Employee travel
Greenhouse Gas Emissions				
<b>1,410</b> MTCO <sub>2</sub> e	<b>50</b> MTCO <sub>2</sub> e	<b>1,800</b> MTCO <sub>2</sub> e	<b>10,230</b> MTCO <sub>2</sub> e	<b>1,560</b> MTCO <sub>2</sub> e
Resource Consumption				
Electricity: <b>1,585,200</b> kWh	Electricity: <b>180,400</b> kWh	Fuel: <b>176,490</b> gallons	Landfilled: <b>970</b> Tons	Commute: <b>2,964,550</b> VMT
Propane: <b>167,830</b> gallons		Refrigerants: <b>10</b> pounds	Methane release: <b>453</b> Tons	Business travel: <b>904,930</b> VMT

### Unincorporated Mono Community

Consistent with the US Community Protocol, Mono County's community inventory includes GHG emissions from the following activities that occur in the unincorporated county<sup>1</sup>: residential energy, nonresidential energy, transportation, off-road equipment, solid waste, water and wastewater, agriculture, and landfills.

Similar to most California communities, transportation (on-road vehicles) was the largest source of emissions (38,340 MTCO<sub>2</sub>e, 27%) in Mono County in 2010, followed by nonresidential energy use (30,390 MTCO<sub>2</sub>e, 22%), residential energy use (26,210 MTCO<sub>2</sub>e, 19%), and agricultural activities (21,920 MTCO<sub>2</sub>e, 16%). The remaining community emissions (23,450 MTCO<sub>2</sub>e, 17%) were attributed to landfills, off-road equipment, water and wastewater, and solid waste disposal activities. **Figure 6** summarizes the community inventory results.

**Figure 6: 2010 Community Emissions by Sector**

Residential Energy	Greenhouse Gas Emissions	26,210 MTCO <sub>2</sub> e	Resource Consumption	Electricity: 18,888,200 kWh
				Propane: 979,070 Gallons
				Wood: 9,930 Tons
Nonresidential Energy		30,390 MTCO <sub>2</sub> e		Electricity: 29,344,800 kWh
				Propane: 3,632,850 Gallons
Transportation		38,340 MTCO <sub>2</sub> e		Vehicle travel: 57,039,040 VMT
Off-road equipment		7,530 MTCO <sub>2</sub> e		Activity data not available.
Solid waste		4,720 MTCO <sub>2</sub> e		Landfilled: 6,400 Tons
Water and wastewater		1,690 MTCO <sub>2</sub> e		Electricity: 2,458,630 kWh
				Wastewater: 1,171 sewer connections
				2,200 septic tanks
Agriculture		21,920 MTCO <sub>2</sub> e		Domesticated animal production: 59,750 Heads
				Crop fertilization: 16,170 Acres
Landfills		9,510 MTCO <sub>2</sub> e		Methane release: 270 Tons

<sup>1</sup> Including activities by government agencies other than the County such as the US Forest Service, Bureau of Land Management, and the California Department of Transportation.

## Growth Indicators and Forecasts

An activity and emissions forecast estimates how emissions would grow over time if no action is taken at the federal, state, or local level to reduce them. A forecast has been prepared for Mono County's government operations and community activities, assuming that 2010 energy consumption, waste disposal, and vehicle travel rates on a per person or per effective population rate remain constant. These 2010 emissions rates are combined with applicable growth indicators to determine the anticipated increase in emissions. The following growth indicators are essential components to estimating how emissions in Mono County may increase over time.

### County Government Growth Indicators

County government employee estimates identified by County staff are used to forecast most County government operations emissions for 2020 and 2035 (see **Table 3**). While staffing levels have declined since 2010, when there were 326 employees, the number of County employees is anticipated to return to 2010 levels by 2020. Beyond 2020, the number of County employees is estimated to grow to 388 employees by 2035. This results in a 19% net increase in the number of County employees between 2010 and 2035, which aligns with anticipated growth in the number of residents, employees, and visitors in Mono County over the same time frame.

**Table 3: 2010–2035 County Government Employee Estimates**

	2010	2015	2020	2035
Mono County Employee Total	326	285	326	388

Source: Mono County 2009.

Emissions from County-operated landfills are forecast based on the amount of waste disposed at each landfill by the community (both unincorporated county areas and the Town of Mammoth Lakes). Therefore, emissions from these landfills are forecast using effective countywide population. Landfill emissions forecasts also assume that the Benton Crossing Landfill will no longer accept additional waste after 2023. However, the waste sector forecasts attempt to address how the County will manage waste disposal following closure of the Benton Crossing Landfill.

### Community Growth Indicators

Community growth indicators were derived using a combination of sources, including the California Department of Finance (DOF), the US Census Bureau, CARB, California Department of Transportation (Caltrans), and California's Employment Development Department (EDD). **Table 4** identifies growth indicators and sources used to forecast community emissions.

**Table 4: 2010–2035 Community Growth Indicators**

Growth Indicator	2010	2020	2035	% Growth 2010–2035	Source
Resident Population	5,970	6,320	7,130	19%	DOF
Effective Annual Population	11,170	11,620	12,520	18%	DOF, EDD
Households	2,550	2,690	3,030	19%	DOF, US Census Bureau
Jobs	3,200	3,500	3,840	20%	EDD, Caltrans
Annual VMT (thousands) <sup>1</sup>	57,039	59,532	62,559	10%	CARB

Note:

1. Annual VMT reflects adjustments made to the countywide annual VMT forecast prepared by CARB to account for effective annual population within the unincorporated area.

## Greenhouse Gas Emissions Forecasts

An emissions forecast estimates how emissions would grow over time if no actions were taken at the federal, state, or local level to reduce them. Emissions forecasts have been prepared for both Mono County's government operations and unincorporated community activities, assuming that energy consumption, waste disposal, and energy efficiency rates remain constant and considering the forecast indicators described above. The forecast addresses two years: 2020 and 2035. The 2020 forecast aligns with AB 32 targets, while the 2035 forecast provides a longer-term trajectory to implement additional resource efficiency programs and policies.

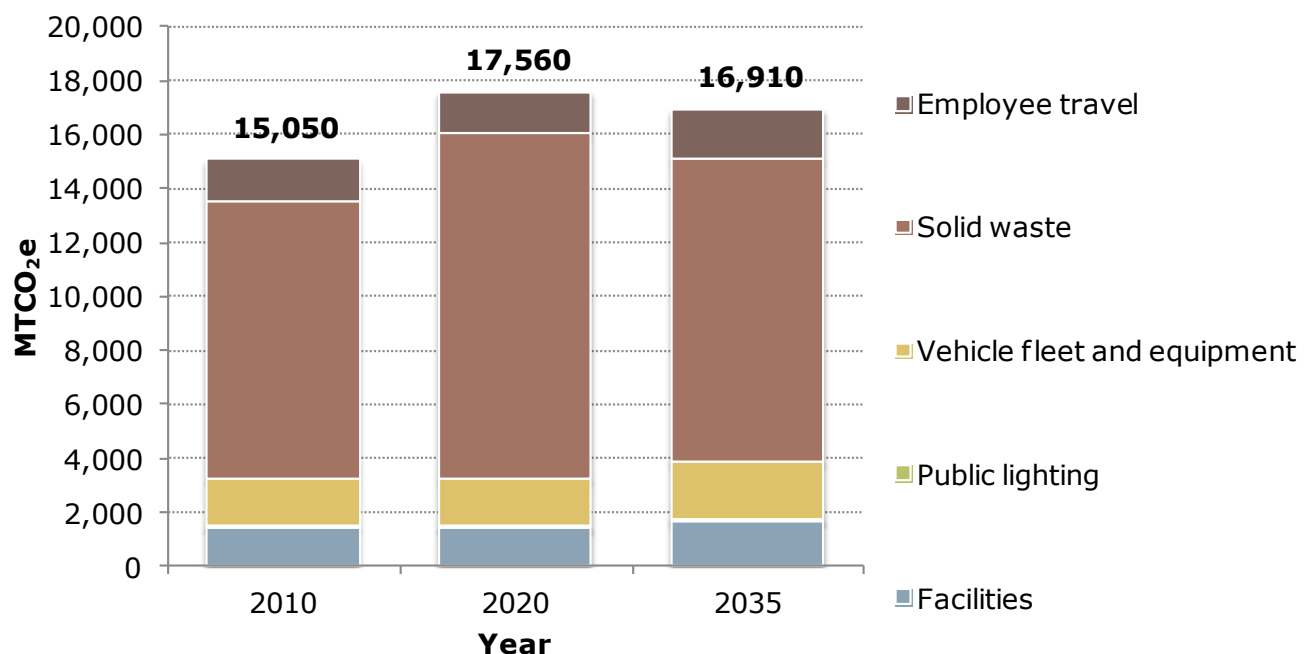
### County Government Operations Forecast

The County government operations emissions forecast estimates how emissions would grow if County government resource consumption rates remain constant at baseline levels, but the number of employees and buildings increases to provide services and improved amenities to Mono County's growing number of visitors and residents.

As shown in **Figure 7**, County government operation emissions are estimated to increase by 17% from 2010 levels by 2020 to 17,560 MTCO<sub>2</sub>e, and by 12% from 2010 levels in 2035 to 16,910 MTCO<sub>2</sub>e. Due to continued disposal of waste and methane generation at County-operated landfills, the only sector anticipated to grow between 2010 and 2020 is the solid waste sector. All other government operations sectors are anticipated to remain constant between 2010 and 2020. Excluding the solid waste sector, County government emissions sectors are anticipated to grow by 19% from 2010 levels by 2035, proportional to the anticipated growth in County employment levels.

The solid waste sector includes methane generation from landfills operated by the County, including the Benton Crossing Landfill, which is expected to close in 2023. The life cycle of a landfill has a methane generation profile similar to that of a bell curve in that it typically peaks within a year or two after a landfill closes and then gradually declines over time. As a result, annual emissions in Mono County's solid waste sector increase overall between 2010 and 2035, despite a decline between 2020 and 2035 due to closure of the landfill in 2023.

**Figure 7: 2010–2035 County Operations Emissions Forecast**

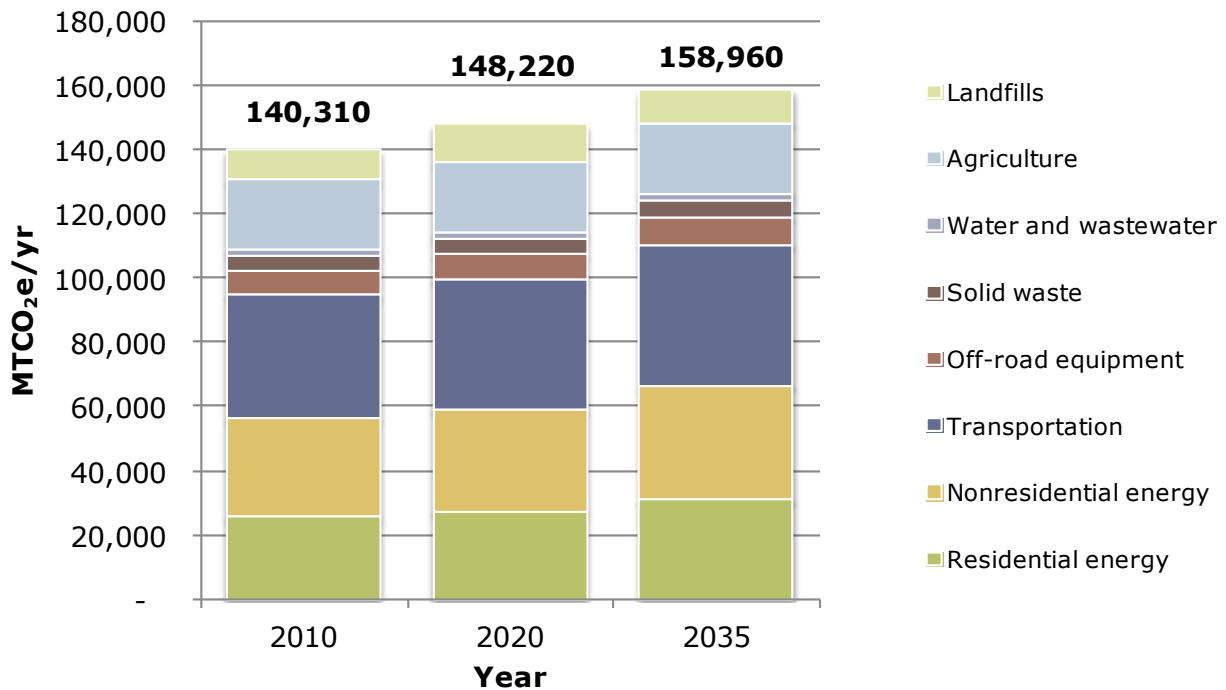




### Community Emissions Forecast

The community emissions forecast estimates how emissions would grow if resource consumption rates remain at 2010 levels, but the number of people, households, and jobs continues to grow in unincorporated Mono County. Community-wide emissions are anticipated to increase by 6% from 2010 levels by 2020, and by 13% from 2010 levels by 2035 (see **Figure 8**).

**Figure 8: 2010–2035 Community Emissions Forecast**



### Resource Efficiency Targets

Most California cities and counties prepare climate action plans to achieve a minimum 15% reduction in GHG emissions from a 2005–2008 baseline year by 2020, as an equivalent to reducing GHG emissions to 1990 levels by 2020. This approach to setting a GHG reduction target relies on substantial evidence provided by SB 97 Final Statement of Reasons, the AB 32 Scoping Plan, and in some cases, thresholds established by an air quality management district as a basis to determine that GHG emissions from activities covered by the plan would not be cumulatively considerable. While the Scoping Plan identifies local governments as essential partners in achieving state GHG reduction goals and encourages them to consider reduction targets of at least 15%, there is currently no legislative requirement to set a specific fair-share GHG reduction goal, nor are penalties imposed for falling short of established goals.

Through this plan, Mono County is establishing a policy framework to locally fulfill the goals of AB 32 and will be responsible for leading implementation efforts, rather than requiring community members to address AB 32 solely through individual actions. As a CEQA lead agency, Mono County has the authority to identify cumulative thresholds supported by substantial evidence in a manner consistent with State CEQA Guidelines Section 15183.5(b). The REP is designed to fulfill and implement the GHG reduction goals of the AB 32 Scoping Plan at the local level as well as to support Scoping Plan objectives for the state as a whole. **Figure 9** identifies the County's near-term resource efficiency targets to be achieved through the implementation of this plan. Substantial evidence for these targets is provided through analysis completed to support the REP.



Figure 9: 2020 Resource Efficiency Targets

## Greenhouse Gas Reduction

# -10%

Local achievement of a 10% reduction from 2005 emissions levels and 20% reduction from 2010 emissions levels by 2020 through local benefits of statewide emissions reduction policies and implementation of all feasible local GHG reduction measures.

## Renewable Energy Production

# +38 MW

Implementation of projects accounting for 38 MW of additional renewable energy in the unincorporated county, resulting in additional 2020 GHG emissions reductions of 108,200 MTCO<sub>2</sub>e per year to those realized locally in Mono County.

### Greenhouse Gas Reduction Target

To support a comprehensive assessment of all potentially feasible policies and actions that could be implemented by the County, staff and consultants reviewed more than 500 potential actions from the California Air Pollution Control Officers Association's (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures* guide, and the Institute for Local Government's *Sustainability Best Practices Framework*. The Board of Supervisors determined approximately 120 of these policies and actions to be feasible for Mono County in the near term. The REP relies on a balanced approach to reducing GHG emissions across all activity sectors and addressing both existing and new development. At this time, the REP policies and actions represent the most technologically and economically feasible approach to reducing GHG emissions in Mono County.

### Renewable Energy Production Target

Counties play an important role in supporting projects that have a larger statewide benefit and contribute to the achievement of statewide GHG reduction goals, though they may not directly reduce emissions within the jurisdiction's boundaries. Mono County has a long history of supporting, coordinating, and permitting renewable energy projects to support the electric generation needs of the Los Angeles Department of Water and Power, Southern California Edison, and private power generators. Examples include the recently approved Mammoth Pacific I Replacement and Casa Diablo IV Geothermal Development projects, which together will reduce emissions by 108,200 MTCO<sub>2</sub>e per year when completed. The County's support and coordination of these renewable energy projects serves an important role in helping the state and energy service providers to meet Renewables Portfolio Standard goals.

Multiple policies and actions proposed in the Mono County REP support the development of these and other renewable energy projects that provide cleaner sources of energy to utilities and their customers throughout California. The County considers these to be of equal, if not greater, value as compared to policies and actions that reduce local emissions in the unincorporated area, as they have potentially broad impact statewide and would contribute to statewide achievement of AB 32 Scoping Plan goals.





### 3. RESOURCE EFFICIENCY MEASURES

This chapter describes the process for identifying, developing, and refining the measures needed to achieve the County's resource efficiency targets, as well as the methods used to evaluate the resource efficiency and GHG reduction benefits of each goal, policy, and action.

#### Process and Structure

##### **Policy Development Process**

Through the process of developing the REP, County staff has reviewed more than 500 actions that are typically considered in sustainability and climate action plans for local jurisdictions. Of those, approximately 120 have been identified as relevant to the rural and mountainous nature of the county and considered politically, technically, and economically feasible to implement at this time. The proposed policies include implementing net-zero energy policies for County facilities, replacing and consolidating vehicles in the County fleet, and strategic opportunities to improve resource efficiency by residents, businesses, and visitors. Collectively, REP actions are estimated to reduce emissions levels to 111,620 MTCO<sub>2</sub>e per year, achieving a 10% reduction below 2005 emissions levels and a 20% reduction below 2010 emissions levels by 2020. In addition, the REP proposes a goal to implement projects accounting for 38 MW of additional renewable energy, over baseline conditions. This would result in additional 2020 GHG emissions reductions of 108,200 MTCO<sub>2</sub>e per year to those realized locally in Mono County.

##### **REP Policy Structure**

The proposed REP policies are structured to become a part of the County's General Plan (see **Figure 10**). Goals, objectives, policies, and actions are presented for use within the Conservation and Open Space (CO), Circulation (C), and Land Use (LU) Elements. To balance the level of detail and inputs needed to track implementation, emissions reductions estimates are presented at the policy level for 2020.

In addition to the policies proposed in the REP, to highlight the resource efficiency and GHG reduction efforts that have already been implemented or adopted by Mono County and California, the REP policy matrix presents the following actions and activities:

**State Regulations** – Key state programs and requirements that affect local emissions are credited toward the 2020 emissions reduction target. While these programs and requirements are enacted statewide, they affect vehicle emissions, the renewable energy content of electricity, and energy efficiency at the local level. Key state programs that affect local emissions in Mono County include the Pavley vehicle standards, Renewables Portfolio Standard (RPS), and Title 24 Energy Efficiency Standards. Considering the emissions forecast, state programs will reduce 2020 emissions in Mono County by 9,480 MTCO<sub>2</sub>e.

**REP Policies** – The REP policies are a diverse mix of incentives, education, and standards applicable to both new and existing development. The policies are designed to reduce emissions from each source to avoid relying on any one strategy or sector to achieve resource efficiency goals. Considering the emissions forecast, REP policies will reduce 2020 emissions in Mono County by 27,120 MTCO<sub>2</sub>e.

### Goals, Objectives, Policies, and Actions

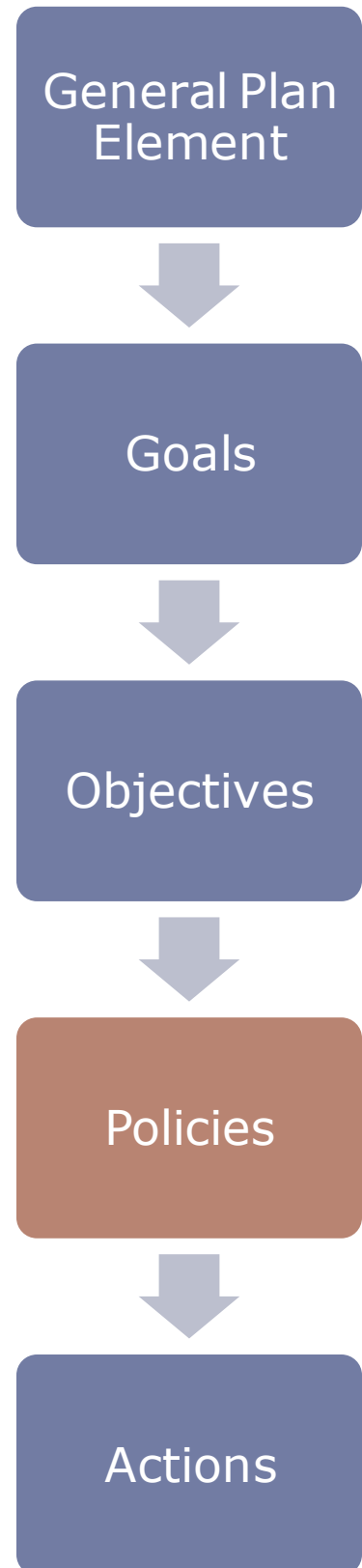
The goals, objectives, policies, and actions included in this REP can be implemented to further reduce emissions beyond state reductions and existing local actions. Using an initial feasibility analysis based on the geography, population density, and decision-making patterns present in Mono County, approximately 120 feasible actions were identified that the County could take to increase resource efficiency in community activities and County government operations. Most address improving energy efficiency in existing buildings, which corresponds to the largest sources of emissions in Mono County.

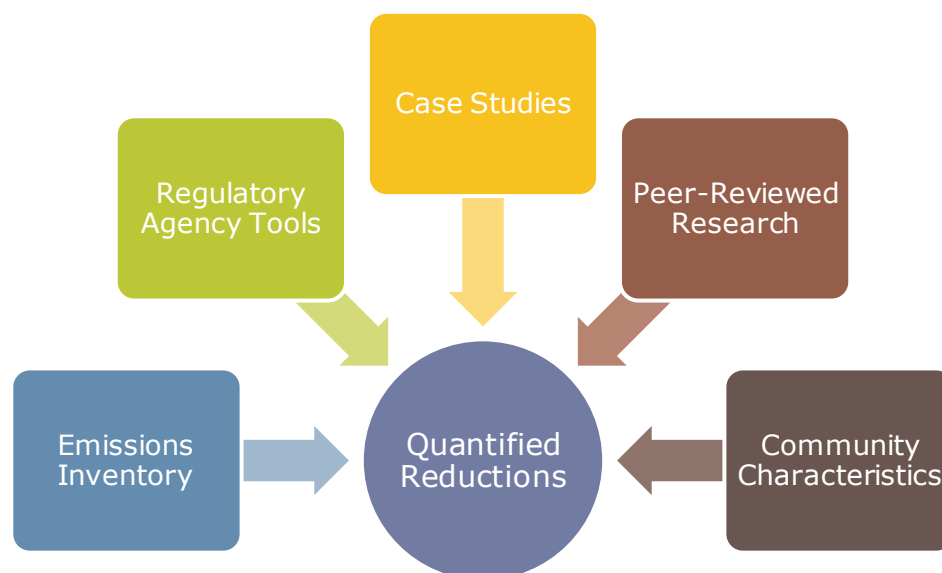
### Quantification Methods

The emissions reduction benefit of each policy is determined by changes in operation, activity, or efficiency. Two types of reductions are considered: avoided emissions (e.g., walk instead of drive) and greater efficiency (e.g., drive an electric vehicle instead of a gasoline-powered model).

**Figure 11** summarizes information used to estimate emissions reductions. The baseline inventory and 2020 forecast serve as the foundation for quantifying REP policies. Activity data from the inventory (e.g., vehicle miles traveled (VMT) and kilowatt hour (kWh) of electricity) are used with performance metrics to calculate the emissions reduction potential of each policy. This approach ensures that emissions reductions relate to activities in the community and County operations.

**Figure 10: REP Policy Structure**



**Figure 11: Emissions Quantification Sources and Tools**

## Resource Efficiency Metrics and Community Benefits

For each goal, a summary of the relevant resource efficiency metrics have been provided to highlight each goal's contribution toward reducing GHG emissions and resource consumption. The reduction values presented with each goal represent annual reductions that can be achieved through implementation of the associated goals, policies, and actions by 2020. A detailed accounting of the GHG reduction estimates associated with each policy is provided in the work plan in **Chapter 4**.

Additionally, implementation of REP goals provides indirect benefits to the Mono County community through achievement of the following program objectives of California's SGC:

- Improve air and water quality
- Promote public health
- Promote equity
- Increase housing affordability
- Increase infill and compact development
- Revitalize urban and community centers
- Protect natural resources and agricultural lands
- Reduce automobile usage and fuel consumption
- Improve infrastructure systems
- Promote water conservation
- Promote energy efficiency and conservation
- Strengthen the economy

The contribution toward reducing GHG emissions, resource consumption, and achieving SGC program goals are highlighted for each goal, next to the goal introduction, and summarized at the end of this chapter.

Advancing equity is a key priority of the SGC. The upcoming Affordable Housing and Sustainable Communities program administered by the SGC will prioritize grant funding to support resource efficiency throughout California, particularly among lower-income residents. There is wide income disparity in unincorporated Mono County; according to the most recent US Census data, approximately 29% of households earn less than \$35,000 a year, while approximately 22% of households earn over \$100,000 annually. REP goals, policies, and actions are intended to allow all Mono County community members, regardless of income, occupation, age, or other factors, to equally benefit from resource efficiency. Several REP actions are specifically focused toward lower-income individuals, including weatherization assistance, improving availability of produce from local farms, and supporting development of lower-cost transportation.

## GOAL CO.1. IMPROVE ENERGY EFFICIENCY IN EXISTING BUILDINGS.

### Resource Efficiency Metrics

GHG:	-10,500 MTCO <sub>2</sub> e/yr
Electricity:	-6,942,920 kWh/yr
Propane:	-175,590 gallons/yr
Wood:	-4,310 tons/yr

### Community Benefits

- ✓ Improve air and water quality  
Promote public health
- ✓ Promote equity
- ✓ Increase housing affordability
- ✓ Improve infrastructure systems
- ✓ Promote water conservation
- ✓ Promote energy efficiency and conservation
- ✓ Strengthen the economy

Much of the energy use within buildings in future years will occur in buildings constructed prior to the development of the REP, as many of the current buildings in Mono County will still be occupied in 2035, and the County is not expecting a substantial amount of new construction. Older buildings often lack the energy-efficient features found in newer structures. Policies and actions supporting Goal CO.1 seek to reduce the energy used by older buildings in Mono County, including educational events and small-scale improvements (such as energy-efficient light bulbs), replacement of home appliances (such as pumps and stoves), and whole-building retrofits. These actions address both residential and nonresidential buildings, including rented and leased buildings, and County-owned facilities. Additionally, these actions include monetary incentives and potential financing options, helping to make the upfront cost of energy efficiency more affordable.

These actions decrease energy use in existing buildings, including electricity and heating fuels such as wood and propane. These actions save building owners and tenants money on their utility bills and can make buildings more comfortable places to live and work. By reducing electricity and fuel use, these actions will help reduce some of the largest sources of GHG emissions in Mono County. Reductions in fuel use can also improve air quality in the county, providing health benefits for residents and visitors.

**Objective CO.1.A.** *Improve the information and support available to residential and nonresidential property owners to reduce energy use.*

**Policy CO.1.A.i.** Work with nonprofits and utility providers to provide property owners with technical assistance, energy efficiency programs, and financial incentives.

**Action CO.1.A.i.a.** Support and publicize compact

fluorescent (CFL) or light-emitting diode (LED) giveaways, and incandescent bulb exchange programs.

**Action CO.1.A.i.b.** Work with utility providers to encourage home/commercial audits and energy efficiency retrofits.

**Action CO.1.A.i.c.** Support or host events that highlight and promote successful programs.

**Action CO.1.A.i.d.** Promote and reward energy efficiency efforts of local visitor-serving and recreational businesses.

**Policy CO.1.A.ii.** Provide green building information and resources in a publicly available format, such as a dedicated page on the County website.

**Action CO.1.A.ii.a.** Provide green building information and resources.

**Action CO.1.A.ii.b.** Provide information about programs, rebates such as the California Solar Initiative, on-bill financing, or other financial incentives to help residents and businesses complete energy-saving measures such as audits and whole-house retrofits.

**Action CO.1.A.ii.c.** Provide information on low-income assistance programs, such as weatherization.

**Action CO.1.A.ii.d.** Provide information to local businesses about resource-efficient procurement opportunities.

**Objective CO.1.B.** *Increase the number of programs available and accessibility to capital to assist residential and nonresidential properties with implementation of resource-efficient practices.*

**Policy CO.1.B.i.** Provide programs and information to reduce existing energy use.

**Action CO.1.B.i.a.** Offer a property assessed clean energy (PACE) financing program for residential and nonresidential energy efficiency.

**Action CO.1.B.i.b.** Work with the Great Basin Unified Air Pollution Control District to provide incentives to replace older woodstoves with Environmental Protection Agency-certified pellet stove or propane units.

**Policy CO.1.B.ii.** Encourage energy-efficient measures and practices through standard County programs, such as well and building permits.

**Action CO.1.B.ii.a.** Promote installation of variable frequency drive water pumps to serve existing residential buildings.

**Action CO.1.B.ii.b.** Encourage voluntary upgrades of residential and nonresidential HVAC systems.

**Action CO.1.B.ii.c.** Encourage energy audits and voluntary retrofits for residential and nonresidential buildings at the time of sale or major renovation (>50% of building square footage, or addition of >500 square feet).

**Policy CO.1.B.iii.** Provide incentives and information to support upgrades to rental properties, non-primary housing, and other types of housing.

**Action CO.1.B.iii.a.** Promote opportunities to improve energy efficiency and install renewable energy systems in rental or secondary homes.

**Action CO.1.B.iii.b.** Provide information on programs such as upgrades to mobile homes, blow-in insulation, and double-paned glazed low-e windows.

**Objective CO.1.C.** *Reduce energy use in existing County facilities.*

**Policy CO.1.C.i.** Continue progress toward net zero energy use in County facilities.

**Action CO.1.C.i.a.** Seek funding for and then develop a net zero energy feasibility study for County facilities that would include renewable energy generation, whole-building energy audits, construction costs and return on investment horizons, and potential time frames.

**Action CO.1.C.i.b.** Consider installing cool roof materials on existing and new County-owned buildings.

**Action CO.1.C.i.c.** Replace appliances and equipment in County-owned and leased buildings with energy-efficient models.

**Action CO.1.C.i.d.** Develop and implement a schedule—for example, through whole-building energy audits—to address no cost/low cost energy retrofit projects in County-owned and -leased buildings.



## Mono County Resource Efficiency Plan

---

**Action CO.1.C.i.e.** Reduce energy demand in County-owned buildings by capturing “daylighting” opportunities.

**Action CO.1.C.i.f.** Collaborate with owners of leased buildings to audit and benchmark energy use, retrofit for efficiency, and develop a preferred leasing agreement that incorporates energy-efficient practices.

**Policy CO.1.C.ii.** Continue to manage maintenance and ongoing programs that support energy reduction.

**Action CO.1.C.ii.a.** Periodically audit and benchmark energy use in County-owned buildings to identify opportunities for energy efficiency and conservation.

**Action CO.1.C.ii.b.** Ensure that HVAC and lighting systems in County-owned and -leased buildings are operating as designed and installed.

**Action CO.1.C.ii.c.** Continue to use energy management software to monitor real-time energy use in County-owned and -leased buildings to identify energy usage patterns and abnormalities.

**Action CO.1.C.ii.d.** Install motion sensors, photocells, and multi-level switches to control room lighting systems in County-owned and -leased buildings.

**Action CO.1.C.ii.e.** Encourage utility providers to install smart meters on County-owned buildings.



## GOAL CO.2. REDUCE ENERGY USE IN NEW CONSTRUCTION AND MAJOR RENOVATIONS.

Although new construction in Mono County is expected to be limited and the California Building Standards Code contains many items to improve the energy efficiency of newer buildings, Mono County has an opportunity to show leadership in green building by supporting practices that go beyond state standards. Policies and actions supporting Goal CO.2 will improve energy efficiency in new construction and major renovations through voluntary actions and incentives. These include providing educational materials about the benefits of exceeding California's green building standards, incentivizing key green building practices, and collaborating with utility companies, residents, and building industry professionals to offer training and technical assistance. These actions also promote green building in County facilities.

The actions will reduce energy use in new and retrofitted buildings beyond the standards of the California Building Standards Code, decreasing electricity and propane bills for owners and tenants. By reducing the amount of fuel burned to generate electricity or heat homes, these actions help reduce Mono County's GHG emissions, and can improve local and regional air quality.

**Objective CO.2.A.** Increase green building practices in new construction and major renovations.

**Policy CO.2.A.i.** Support and promote residential and nonresidential green building construction.

**Action CO.2.A.i.a.** Offer incentives (e.g., streamlined permitting, prescriptive designs, fee waivers/reductions) for green building practices, such as verifiable green building practices that exceed state or local minimum standards, ground-source heat pumps, or photovoltaic solar installations.

**Action CO.2.A.i.b.** Work with utility providers to provide information to businesses about available rebates for new residential and commercial buildings that exceed Title 24 by at least 15%.

**Action CO.2.A.i.c.** Offer technical expertise and assistance for community members, builders, and businesses undertaking green building projects.

**Action CO.2.A.i.d.** Provide information on how contractors can attend energy efficiency training.

**Policy CO.2.A.ii.** Continue to transition to green building practices in new County facilities.

**Action CO.2.A.ii.a.** Consider certification by a third-party rater to ensure all new County facilities and renovations of existing facilities comply with green building standards.

**Action CO.2.A.ii.b.** Target meeting net-zero energy requirements or exceeding minimum Title 24 requirements for new County buildings and renovation of existing facilities.

### Resource Efficiency Metrics

GHG: -460  
MTCO<sub>2</sub>e/yr

Electricity: -371,940  
kWh/yr

Propane: -55,270  
gallons/yr

### Community Benefits

- ✓ Improve air and water quality
- ✓ Promote public health
- ✓ Promote equity
- ✓ Increase housing affordability

**GOAL CO.3. PRESERVE OPEN SPACE AND AGRICULTURE TO SEQUESTER CARBON AND PROMOTE LOCAL FOOD PRODUCTION.**

*Resource Efficiency Metrics*

*GHG: -20 MTCO<sub>2</sub>e/yr*

*Fertilizer: -12,440 lbs/yr*

*Community Benefits*

- ✓ Improve air and water quality
- ✓ Promote public health
- ✓ Promote equity
- ✓ Protect natural resources and agricultural lands
- ✓ Promote water conservation

Mono County residents and visitors to the area are fortunate to enjoy a spectacular natural setting. The County's open spaces provide extensive recreational opportunities and make Mono County a destination for visitors from around the world, while the County's gardens and agricultural land supply food grown and raised locally. Goal CO.3 manages and preserves these vital lands to reduce resource use and contribute to the County's GHG reduction efforts. Policies and actions supporting Goal CO.3 include providing incentives to preserve agricultural land and open space, support economically viable agricultural practices that reduce environmental impacts, and exploring options to allow farmers and ranchers to use their land to sequester carbon without disrupting normal agricultural activities. They also include steps to provide economic support for local farmers and ranchers, including helping to make locally grown and raised food more widely available, and buying locally supplied food for County events when feasible.

Many of these actions are considered supportive, meaning that their resource efficiency and GHG benefits cannot be definitively identified. However, these actions help to preserve and expand Mono County's agricultural and open space land, providing

scenic benefits and contributing to the local economy. By providing farmers with best practices on fertilizer and pesticide use, Mono County can help save farmers money, reduce health risks, and decrease GHG emissions from agricultural activities. The possibility of using agricultural land to sequester carbon may provide additional financial benefits to farmers and ranchers.

**Objective CO.3.A.** *Improve the health and resilience of the natural and agricultural landscape.*

**Policy CO.3.A.i.** Maintain open space and manage open space from fire and erosion.

**Action CO.3.A.i.a.** Proactively manage the County's current parks, open space, recreational facilities, and other natural areas owned or operated by the County to ensure the long-term health and viability of trees and other vegetation.

**Action CO.3.A.i.b.** Evaluate future opportunities to convert closed landfills to parks or open space.

**Policy CO.3.A.ii.** Encourage other programs that protect natural areas.

**Action CO.3.A.ii.a.** Promote biomass heat/energy utilization projects meeting environmental standards as a means to incentivize fuel reduction projects for healthy forests by creating an economic market for woody biomass.

**Policy CO.3.A.iii.** Support optimal agricultural practices.

**Action CO.3.A.iii.a.** To the extent feasible, purchase locally grown food for County events and purposes.



**Action CO.3.A.iii.b.** Encourage community gardens and farmers markets to support the availability of healthy, locally grown produce.

**Action CO.3.A.iii.c.** Promote conservation tillage and other agricultural practices to retain carbon fixed in soils.

**Action CO.3.A.iii.d.** Provide financial or other incentives for low-income residents to purchase fresh produce at farmers markets.

**Action CO.3.A.iii.e.** Offer incentives (e.g., development credits, support for the Williamson Act) to promote the preservation of farmland, open space, and sensitive lands.

**Action CO.3.A.iii.f.** Support the Great Basin Unified Air Pollution Control Districts standards for the burning of agricultural residue.

**Action CO.3.A.iii.g.** Encourage best practices in fertilizer and pesticide use.

**Action CO.3.A.iii.h.** Research carbon sequestration programs on agricultural lands.



**GOAL CO.4. ENCOURAGE APPROPRIATELY SCALED RENEWABLE ENERGY GENERATION FOR USE WITHIN THE COUNTY.**

*Resource Efficiency Metrics*

*GHG: -5,550  
MTCO<sub>2</sub>e/yr*

*Electricity: -23,051,690  
kWh/yr*

*Community Benefits*

- ✓ Increase housing affordability
- ✓ Revitalize urban and community centers
- ✓ Improve infrastructure systems
- ✓ Promote energy efficiency and conservation
- ✓ Strengthen the economy

Goal CO.4 supports increased individual and community-scale renewable facilities in Mono County in a manner consistent with the County's values and visual setting. Policies and actions support solar photovoltaic systems on new and existing buildings, educational opportunities regarding the benefits of renewable energy systems, and support for community-scale renewable energy plants that are environmentally responsible and financially feasible. This measure does not support industrial or utility-scale solar installations that are incompatible with Mono County's rural character. To help decrease the costs of renewable energy systems, the County proposes incentives and unique financing opportunities for renewable energy development.

Renewable energy systems reduce the amount of fossil fuels burned to create energy, decreasing GHG emissions and improving air quality. Renewable energy systems attached to buildings, such as solar panels on a building roof, reduce the amount of energy that needs to be purchased from utility companies, and allow building occupants to sell electricity back to the utility company (a process called net metering), which can reduce energy bills. Community-scale facilities contribute to California's overall renewable energy goals.

***Objective CO.4.A.** Increase renewable energy generation that is consistent with the county's visual and aesthetic qualities and values.*

**Policy CO.4.A.i.** Support and incentivize residential and nonresidential distributed renewable energy generation.

**Action CO.4.A.i.a.** Pursue installation of solar photovoltaic systems, power purchase agreements, or solar collective programs to meet all or part of the electrical energy requirements of County-owned or -leased buildings.

**Action CO.4.A.i.b.** Offer incentives (e.g., streamlined permitting, prescriptive designs, fee waivers/reductions) to encourage installation of photovoltaic systems on new or existing buildings.

**Action CO.4.A.i.c.** Offer workshops and information for residents and businesses to provide resources and permitting assistance for those interested in adding renewable energy systems to their properties.

**Policy CO.4.A.ii.** Encourage community-scale (<3 MW) renewable energy development on suitable lands, such as a biomass co-generation facility.

**Action CO.4.A.ii.a.** Support the development of appropriately sited community-scale renewable energy systems that meet critical evaluation criteria, such as environmental standards, sensitive species, financial feasibility, and transmission capacity.

**Action CO.4.A.ii.b.** Work with utility providers, regulatory agencies, and local stakeholders to develop technical, environmental, and social feasibility.

## GOAL CO.5. REDUCE GENERATION OF WASTE WITHIN THE COUNTY.

Material thrown away in a trash can in Mono County ends up in a landfill operated by the County government, taking up space and decomposing to produce methane, a potent GHG. Goal CO.5 reduces the amount of waste that ends up in a landfill by promoting recycling and composting, and reducing the amount of waste produced by County residents, businesses, and visitors. Policies and actions supporting Goal CO.5 include finding opportunities to collect and recycle waste that cannot be easily disposed of (for example, electronic waste), supporting the expansion of recycling programs, and identifying the need for new programs and facilities. They also promote steps by the County government to lead by example, including providing County staff with information about waste reduction, recommending actions to decrease paper waste, and exploring the feasibility of upgrading County waste management facilities.

Waste reduction actions decrease the amount of material that ends up in a landfill, thereby reducing the GHGs produced in waste decomposition. They also help to conserve landfill space, decreasing the need for the County to dedicate additional space or develop potentially costly alternatives. These actions can save money as well; for example, efforts to reduce the amount of paper used in County government operations decreases the amount of money the County needs to spend to buy new paper.

### *Resource Efficiency Metrics*

GHG: -3,730  
MTCO<sub>2</sub>e/yr

Waste: -2,700 tons/yr

### *Community Benefits*

- ✓ Promote public health
- ✓ Promote equity
- ✓ Protect natural resources and agricultural lands
- ✓ Improve infrastructure systems
- ✓ Strengthen the economy

**Objective CO.5.A.** *Reduce waste deposited in the county's landfills.*

**Policy CO.5.A.i.** Increase composting and recycling programs, and reduce waste generation, throughout the county.

**Action CO.5.A.i.a.** Identify and encourage reducing, reusing, and recycling opportunities for construction and demolition waste.

**Action CO.5.A.i.b.** Establish a program to use the maximum amount of organic waste possible generated within the county to produce compost for use in parks and landscaping.

**Action CO.5.A.i.c.** Increase opportunities for e-waste and hazardous materials collection and recycling.

**Action CO.5.A.i.d.** Evaluate current recycling infrastructure relative to future needs and anticipated waste generation. Provide incentives for new recycling infrastructure facilities in the county.

**Action CO.5.A.i.e.** Encourage the installation of recycling receptacles and containers at multi-family housing developments.

**Action CO.5.A.i.f.** Explore measures to reduce waste from commercial operations, such as banning single-use bags and polystyrene containers.

## **Mono County Resource Efficiency Plan**

---

**Policy CO.5.A.ii.** Promote a standard of reduce, reuse, and recycle within County government operations.

**Action CO.5.A.ii.a.** Provide County staff with information on recycling items such as ink cartridges, toner, batteries, and light bulbs.

**Action CO.5.A.ii.b.** Encourage paper use reduction through activities such as:

- Promoting a “think before you print” campaign.
- Reducing margins and logos on County templates, letterhead, and memos.
- Setting printer default options to print double-sided pages.
- Using computer software that removes blank pages and images from documents.
- Using “e-copy” machines that allow users to scan and distribute documents via e-mail.
- Uploading bid documents using online resources.
- Requiring fewer or smaller-sized copies of project plans or submittals, and allowing digital submittals.
- Using electronic devices for agendas and notes at public meetings.

**Action CO.5.A.ii.c.** Review and implement the adopted procurement policy to establish purchasing standards for climate-friendly products.

**Policy CO.5.A.iii.** Partner with other agencies, such as the Town of Mammoth Lakes, on green procurement, waste reduction, and recycling activities.

**Objective CO.5.B.** *Reduce greenhouse gas emissions from County solid waste operations.*

**Policy CO.5.B.i.** Reduce or off-set methane generation from county landfills.

**Action CO.5.B.i.a.** Investigate new technologies available to capture methane at county landfills.

**Action CO.5.B.i.b.** Identify opportunities to install renewable energy systems at county landfills.





**GOAL CO.6. ENSURE A SUSTAINABLE LONG-TERM SUPPLY OF WATER, AND MEET OR EXCEED APPLICABLE WATER QUALITY STANDARDS.**

As of May 2014, all of California was in a state of severe, extreme, or exceptional drought. In the relatively dry environment that comprises much of Mono County and the state, there is a critical need to maintain an adequate supply of safe, clean water. Goal CO.6 seeks to meet this need through a number of water conservation and water quality actions. Policies and actions supporting Goal CO.6 include encouraging new buildings to exceed the water efficiency standards in the California Building Standards Code, promoting development solutions and practices that preserve water quality, encouraging water efficiency retrofits in existing homes and businesses, and promoting more efficient wastewater treatment.

These water conservation actions directly preserve a vital resource for all residents, business owners, and visitors. Reductions in water use result in less energy use to treat and supply water, reducing utility bills and decreasing Mono County's GHG emissions. Goal CO.6 also improves wastewater treatment efficiency, achieving further reductions in energy use and "direct" emissions caused by the decomposition of materials in wastewater.

**Objective CO.6.A.** *Protect and conserve water resources throughout communities.*

**Policy CO.6.A.i.** Encourage reduced water consumption in residential and nonresidential properties.

**Action CO.6.A.i.a.** Encourage and promote the installation of residential greywater systems on existing residential and commercial properties that meet appropriate regulatory standards.

**Action CO.6.A.i.b.** Encourage installation of water conservation measures in existing homes and businesses.

**Action CO.6.A.i.c** Encourage new residential and commercial construction and new County facilities to exceed CALGreen water conservation requirements.

**Action CO.6.A.i.d.** Encourage prospective homebuyers to conduct water efficiency audits at point of sale for commercial and residential properties.

**Action CO.6.A.i.e.** Assess, maintain, repair, and program existing irrigation systems to minimize water use, including parking lot landscaping, public restrooms and parks, and recreational facilities.

*Resource Efficiency Metrics*

*GHG: -660  
MTCO<sub>2</sub>e/yr*

*Electricity: -45,430  
kWh/yr*

*Water: -100 million  
gallons/yr*

*Community Benefits*

- ✓ Improve air and water quality
- ✓ Promote public health
- ✓ Increase housing affordability
- ✓ Protect natural resources and agricultural lands
- ✓ Improve infrastructure systems
- ✓ Promote water conservation
- ✓ Promote energy efficiency and conservation

**Action CO.6.A.i.f.** Ensure applicable projects comply with the Water Efficient Landscape Ordinance.

**Policy CO.6.A.ii.** Protect water quality throughout communities.

**Action CO.6.A.ii.a.** Promote low-impact development solutions (see General Plan Appendix B) for stormwater management on private property, such as rain gardens, green roofs, and detention ponds.

**Action CO.6.A.ii.b.** Use non-toxic fertilizers in county parks and landscaped areas to reduce potential water quality issues through stormwater runoff.

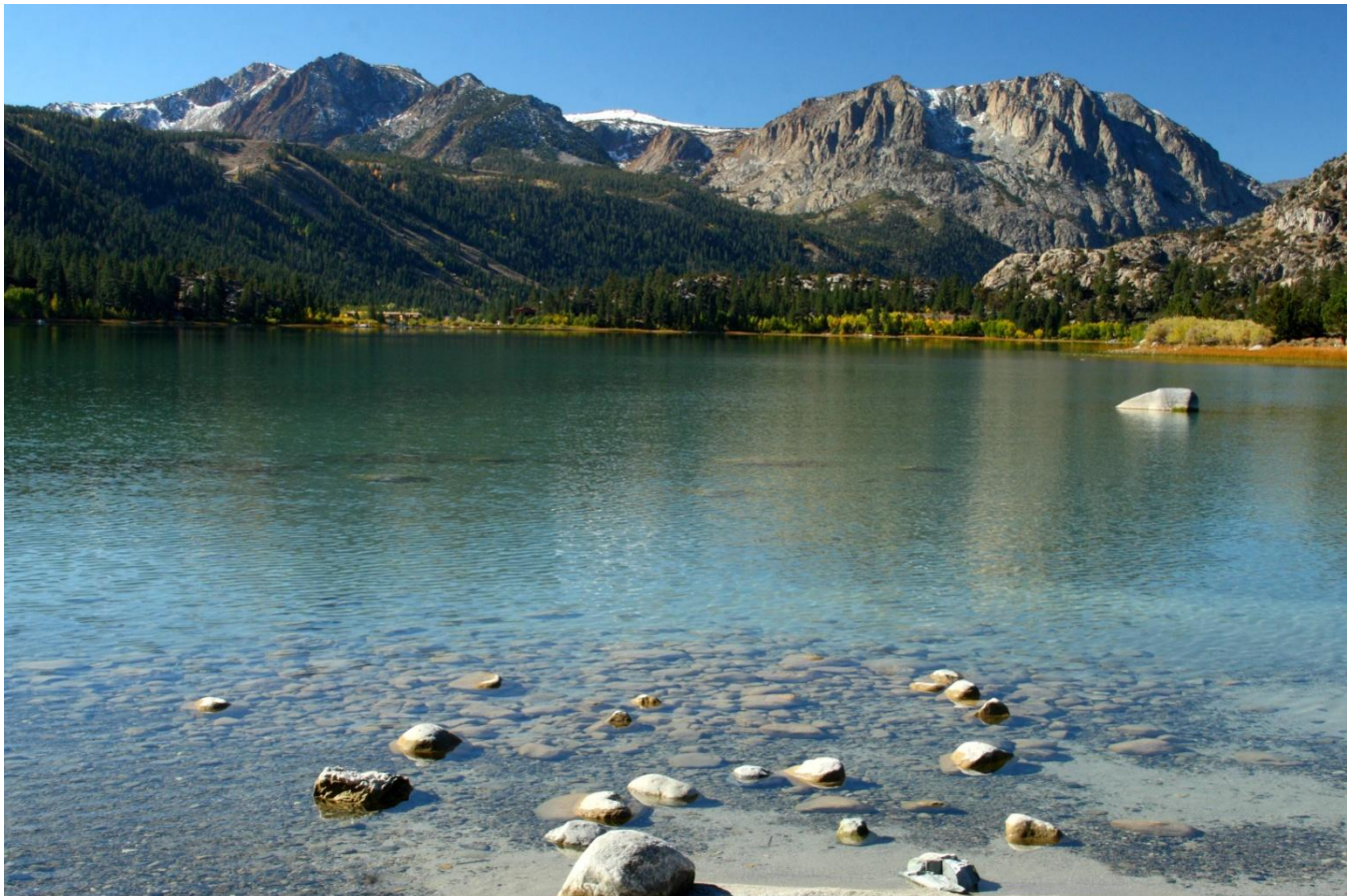
**Action CO.6.A.ii.c.** Maintain drainage systems associated with roads and public infrastructure for stormwater management.

**Objective CO.6.B.** *Promote sustainable alternatives to reduce and treat wastewater.*

**Policy CO.6.B.i.** Promote energy-efficient wastewater treatment and biosolids recycling practices.

**Action CO.6.B.i.a.** Work with wastewater service providers to implement an audit, cycling, and equipment replacement program to increase energy efficiency for water and wastewater pumps and motors.

**Action CO.6.B.i.b.** Where feasible, replace septic systems with community package treatment systems.





### GOAL CO.7. COLLABORATE WITH COMMUNITY PARTNERS, AND EMPOWER THE PUBLIC TO IMPROVE RESOURCE EFFICIENCY WITHIN THE COUNTY.

Resource efficiency policies have a much better chance of success when there is extensive support from community members, and when implementing agencies such as the County government partner with other local and regional organizations. While the policies and actions supporting Goal CO.7 do not result in direct or measurable GHG reduction or resource efficiency metrics, they do encourage collaboration and cooperation among community members and organizations in order to meet numerous County resource objectives. They include efforts to educate community members about resource efficiency and sustainability, opportunities to create events for community leaders to discuss resource conservation, and ways that Mono County can promote resource efficiency and sustainability goals beyond the County boundaries.

These supportive actions contribute to the success of all other resource efficiency goals by improving the visibility of and building support for resource conservation and sustainability. Indirectly, these actions help to achieve the benefits of other resource efficiency goals, including reduced energy use, improved air quality, financial savings, and resource conservation.

#### *Community Benefits*

- ✓ Improve air and water quality
- ✓ Promote public health
- ✓ Promote equity
- ✓ Protect natural resources and agricultural lands
- ✓ Reduce automobile usage and fuel consumption
- ✓ Promote water conservation
- ✓ Promote energy efficiency and conservation
- ✓ Strengthen the economy

**Objective CO.7.A.** *Leverage resources regionally to build capacity for resource efficiency programs.*

**Policy CO.7.A.i.** Work with local schools to support educational opportunities that promote resource efficiency.

**Action CO.7.A.i.a.** Collaborate with high schools to provide students with resource-based internship opportunities.

**Action CO.7.A.i.b.** Partner with local community colleges and grade schools to develop classes or workshops with a resource focus.

**Policy CO.7.A.ii.** Collaborate with local, state, and regional agencies and organizations to identify resource conservation opportunities and share information.

**Action CO.7.A.ii.a.** Integrate energy conservation discussions and opportunities into projects or efforts with other federal, state, and regional agencies.

**Action CO.7.A.ii.b.** Utilize the Regional Planning Advisory Committees to create ongoing opportunities for community members to provide feedback on resource policies and programs.

**Action CO.7.A.ii.c.** Promote the Mono County "Living Light Guide" that outlines steps residents and businesses can take to reduce energy and water use, recycle, and use alternative transportation.

**Action CO.7.A.ii.d.** Include information in County mailings, websites, and other media about actions that individuals and businesses can take to improve resource efficiency.

**Action CO.7.A.ii.e.** Participate in the CoolCalifornia Challenge which challenges local agencies to engage residents in taking action to reduce household energy use and vehicle miles traveled.

**Policy CO.7.A.iii.** Support and participate in the outreach, education, and collaboration efforts of the Eastern Sierra Energy Initiative partnership.

**Action CO.7.A.iii.a.** Distribute giveaway items, such as reusable bags and compact fluorescent (CFL) light bulbs, to encourage environmental responsibility.

**Action CO.7.A.iii.b.** Develop public service announcements and/or talk shows related to resource efficiency.

**Action CO.7.A.iii.c.** Use social media to inform the community about resource efficiency activities and opportunities.

**Action CO.7.A.iii.d.** Host a leadership summit for community leaders, school groups, and businesses to gather and share resource conservation experiences, expertise, strategies, and ideas.

**Action CO.7.A.iii.e.** Provide recognition programs for individuals, groups, and businesses that adopt resource efficiency practices.



## **GOAL C.1. IMPROVE CONNECTIVITY AND EFFICIENCY OF RESIDENT AND EMPLOYEE TRANSPORTATION WITHIN THE COUNTY.**

On-road vehicles are the single largest source of GHG emissions in Mono County and the rural, spread-out nature of the county presents a challenge to residents, employees, and visitors alike to use alternative means of transportation. However, a number of opportunities to improve transportation within the county exist, some of which are addressed by the policies and actions supporting Goal C.1. These actions recognize the diverse reasons people have for traveling within Mono County and seek to provide a number of options to get around that are safe, convenient, and affordable. The actions include improvements to bicycle networks, support for rideshare and shuttle systems for large tourist-serving employers and uses, and working with local transit providers to improve transit service. Strategies to improve transportation efficiency and promote the use of alternative fuels in County government operations are also promoted. Alternative vehicle fuels such as electricity, compressed natural gas, and emerging and future technologies are all supported by the policies and actions of Goal C.1.

By providing alternatives to travel in single-occupancy vehicles, these actions reduce vehicle fuel use in Mono County, decreasing the amount of GHGs and air pollution produced by cars and trucks and creating financial savings for residents and employees who may not need to fill up their vehicle fuel tanks as frequently. Some actions encourage people to walk or use bicycles, providing health benefits to community members and visitors and supporting recreational tourism that benefits the local economy.

**Objective C.1.A.** *Expand resident and visitor transportation options.*

**Policy C.1.A.i.** Provide for viable alternatives to travel in single-occupancy vehicles.

**Action C.1.A.i.a.** Work with major employers to offer voluntary incentives and services that increase the use of alternative forms of transportation, particularly tourism-based employers and uses.

**Action C.1.A.i.b.** Provide bicycle access to transit services along transit corridors and other routes that may attract bicyclists, such as routes providing access to visitor-serving locations.

**Action C.1.A.i.c.** Develop a ridesharing program that utilizes a website and/or mobile technology to connect potential carpoolers.

**Action C.1.A.i.d.** Adopt a countywide bicycle master plan to guide bikeway policies and implement development standards to make bicycling safer, more convenient, and enjoyable.

### *Resource Efficiency Metrics*

*GHG:* -3,720  
MTCO<sub>2</sub>e/yr

*Fuel:* -45,340  
gallons/yr

*Vehicle  
Mileage:* -6,066,610  
VMT/yr

### *Community Benefits*

- ✓ Improve air and water quality
- ✓ Promote public health
- ✓ Promote equity
- ✓ Increase infill and compact development
- ✓ Revitalize urban and community centers
- ✓ Reduce automobile usage and fuel consumption
- ✓ Improve infrastructure systems





**Action C.1.A.i.e.** Identify opportunities to offer bicycle-sharing programs within communities.

**Action C.1.A.i.f.** Encourage the installation of bicycle rack, showers, and/or other amenities as part of new commercial development projects to promote bicycle use by employees and residents.

**Policy C.1.A.ii.** Improve efficiency of County fleet operations.

**Action C.1.A.ii.a.** Set fleet efficiency standards for new agency vehicles that can meet climate conditions and needs while reducing fuel use. Consider purchasing fuel-efficient or alternative-fuel vehicles, including zero or near-zero emission vehicles.

**Action C.1.A.ii.b.** Utilize technology options (e.g., digital service requests accessible by mobile devices) for field personnel to avoid extra trips back to the office.

**Action C.1.A.ii.c.** Install battery systems for vehicles with onboard equipment to decrease truck idling while equipment is used.

**Action C.1.A.ii.d.** When alternative-fuel infrastructure (such as electric vehicle charging stations) is installed

for County government use, ensure public access and use is considered in the design and operation of such facilities.

**Action C.1.A.ii.e.** Perform appropriate vehicle maintenance or retrofits to ensure maximum cold weather performance.

**Action C.1.A.ii.f.** Maintain County off-road vehicles to reduce fuel use and idling time.

**Action C.1.A.ii.g.** Implement the County's on- and off-road equipment replacement plan to comply with the California Air Resource Board's heavy-duty vehicle Tier 4 requirements, to simultaneously reduce fuel use in the County fleet.

**Action C.1.A.ii.h.** Provide incentives to improve maintenance of agricultural vehicles and equipment to reduce fuel use.

**Policy C.1.A.iii.** Reduce vehicle miles traveled from employee commutes and County operations.

**Action C.1.A.iii.a.** Implement a flexible work schedule for County employees incorporating telecommuting, videoconferencing, and modified schedules, including remote attendance at meetings.

**Action C.1.A.iii.b.** Offer County employees incentives to use alternatives to single-occupant commuting, such as flexible schedules, transit incentives, bicycle facilities, bicycle-sharing programs, ridesharing services and subsidies, and telecommuting.

**Action C.1.A.iii.c.** Construct bicycle stations for employees that include bicycle storage, showers, and bicycle repair space.

**Action C.1.A.iii.d.** Consolidate offices that community members often visit at the same time (such as building permitting and environmental health permitting).



## Mono County Resource Efficiency Plan

---

**Action C.1.A.iii.e.** Continue to utilize a crew-based maintenance plan instead of individual assignments, creating a “carpool effect” that lowers the annual miles traveled for maintenance staff.

**Action C.1.A.iii.f.** Survey County staff for ideas to reduce vehicle miles traveled while minimizing service delivery impacts.

**Policy C.1.A.iv.** Encourage the use of alternative fuels in County operations and throughout the community.

**Action C.1.A.iv.a.** Develop permitting standards and streamline the permitting process for installation of electric vehicle charging stations at residential and commercial buildings.

**Action C.1.A.iv.b.** Consider installation of electric vehicle charging stations at public facilities, such as at parking lots and airports, for community use.

**Action C.1.A.iv.c.** Work with electrical providers to develop and implement an electric vehicle charging infrastructure plan.

**Action C.1.A.iv.d.** Encourage new commercial- and visitor-serving projects to include electric vehicle charging stations in parking areas.

**Policy C.1.A.v.** Improve public transportation infrastructure.

**Action C.1.A.v.a.** Work with local transit agencies (e.g., Eastern Sierra Transit Authority and Yosemite Area Regional Transportation System) to increase the number and frequency of routes or capacity of Dial-a-Ride programs serving Mono County.

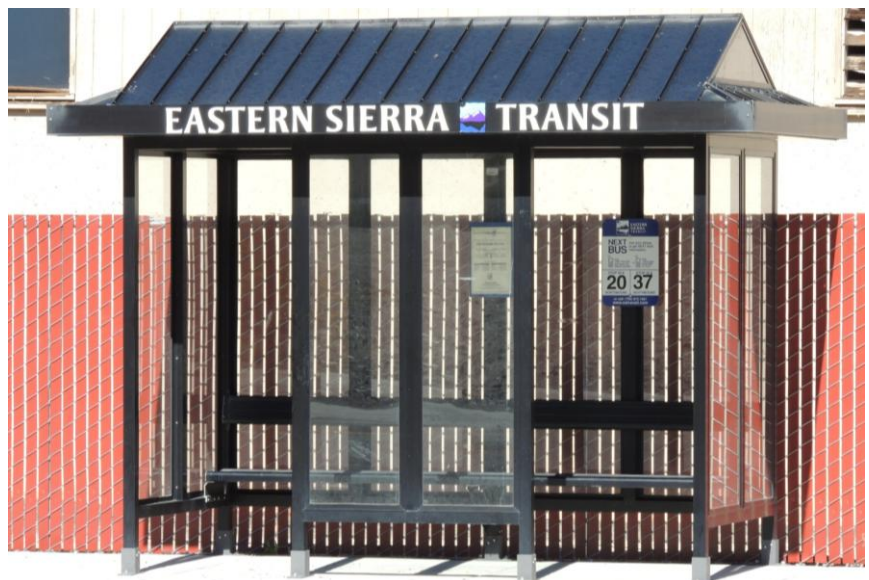
**Action C.1.A.v.b.** Continue to monitor the feasibility of a shuttle service connecting hotels, resorts, and campgrounds to locations such as Bodie, Mono Lake, and the June Mountain Ski Area.

**Action C.1.A.v.c.** Use global positioning system (GPS) and integrated software to increase reliability and timing awareness for system riders through trip planning and location information.

**Policy C.1.A.vi.** Implement engineering and enforcement solutions to improve vehicle fuel efficiency.

**Action C.1.A.vi.a.** Support state/Great Basin Unified Air Pollution Control District efforts to implement and enforce limitation on idling for commercial vehicles, construction vehicles, buses, and other similar vehicles.

**Action C.1.A.vi.b.** Consider the use of roundabouts in lieu of signalized intersections or stop signs as a way to improve traffic flow, reduce accidents, and reduce greenhouse gases.



## GOAL LU.1. PROMOTE COMPACT, EFFICIENT, AND CONTIGUOUS DEVELOPMENT IN THE UNINCORPORATED COUNTY.

The low population density and distance between communities in Mono County mean that residents, employees, and visitors often have to travel lengthy distances as part of their daily routines. While the rural quality of Mono County is not likely to change, the policies and actions supporting Goal LU.1 seek to concentrate new development within or adjacent to existing communities, promoting more concentrated communities, preserving undeveloped land, and maintaining Mono County's natural landscape. These actions coordinate new growth and infrastructure in existing community areas, reduce vehicle miles traveled through future transportation plans, and direct future development to locations near transportation nodes.

Locating new growth in existing communities increases the amount of housing, jobs, and services located within the community, and by extension decreases the need to travel to other communities for these activities. Residents, employees, and visitors can walk, bike, or take a short car trip within their community instead of traveling long distances. This decreases the amount of fuel used by vehicles, saving money for vehicle owners and reducing the GHGs and air pollutants. Similarly, new efficient growth can attach to existing infrastructure. These actions also preserve existing agricultural land and open space, protecting Mono County's rural character.

**Objective LU.1.A.** *Reduce vehicle miles traveled through efficient land use patterns.*

**Policy LU.1.A.i.** Concentrate new growth and development within existing community planning areas.

**Action LU.1.A.i.a.** Utilize the County's community area boundaries and Local Agency Formation Commission's sphere of influence boundaries, and coordination through the multi-agency Landownership Adjustment Program, to focus growth and infrastructure investment in established community areas.

**Action LU.1.A.i.b.** Through the regional transportation planning process and the multi-agency Landownership Adjustment Program, develop and adopt a preferred land use and transportation scenario for future development to reduce vehicle miles traveled.

**Action LU.1.A.i.c.** Utilize the ridgeline and hills ordinance as a way to focus growth within community areas or within spheres of influence.

**Policy LU.1.A.ii.** Concentrate future tourist-serving and nonresidential development around existing and planned transportation routes and stops.

**Action LU.1.A.ii.a.** Provide incentives and remove potential barriers to the development of future projects near transit stops and along transit routes.

### *Resource Efficiency Metrics*

GHG: -2,480  
MTCO<sub>2</sub>e/yr

Vehicle -3,558,130  
Mileage: VMT/yr

### *Community Benefits*

- ✓ Improve air and water quality
- ✓ Promote public health
- ✓ Promote equity
- ✓ Increase housing affordability
- ✓ Increase infill and compact development
- ✓ Revitalize urban and community centers
- ✓ Protect natural resources and agricultural lands
- ✓ Reduce automobile usage and fuel consumption

## **GOAL LU.2. EVALUATE GREENHOUSE GAS EMISSIONS, AND PLAN FOR MITIGATING AND ADAPTING TO CLIMATE CHANGE.**

Climate change is a very broad issue, both in terms of the scope of activities that contribute to it and the potential impacts of climate change on many elements of daily life. As a result, climate change cannot be addressed through a single budget or code update, but rather requires a long-term process to monitor the problem, identify risks and opportunities, and revise the policy response as needed. The policies and actions supporting Goal LU.2 establish a flexible framework for Mono County to address climate change in an effective, cost-efficient way that is consistent with the rural character of the area. This framework allows the County to help mitigate the effects of climate change through more efficient resource use and sustainable development, and to decrease the threats that climate change poses to Mono County by improving the County's adaptive potential. These actions also encourage working with the Town of Mammoth Lakes to create a regional approach to climate change.

These actions are supportive; on their own they do not result in a definitive decrease in resource use or GHG emissions. However, by creating a regional framework to respond to climate change, they integrate issues such as resource efficiency and climate resiliency into Mono County's regular operating practices.

### *Community Benefits*

- ✓ Improve air and water quality
- ✓ Promote public health
- ✓ Promote equity
- ✓ Protect natural resources and agricultural lands
- ✓ Reduce automobile usage and fuel consumption
- ✓ Improve infrastructure systems
- ✓ Promote water conservation
- ✓ Promote energy efficiency and conservation
- ✓ Strengthen the economy

**Objective LU.2.A.** *Increase greenhouse gas emission mitigation and adaptation planning efforts.*

**Policy LU.2.A.i.** Reduce greenhouse gas emissions through local land use and development decisions, and collaborate with local, state, and regional organizations to promote sustainable development.

**Action LU.2.A.i.a.** Work with the Town of Mammoth Lakes to identify and address existing and potential regional sources of greenhouse gas emissions.

**Action LU.2.A.i.b.** Analyze impacts of development projects on safety and involve emergency responders and public safety staff early and consistently in development of growth plans.

**Action LU.2.A.i.c.** Collaborate with the Town of Mammoth Lakes and regional and state agencies to share land use and community design-related information.

**Action LU.2.A.i.d.** Continue to involve a diverse group of stakeholders through the Regional Planning Advisory Committees and the Collaborative Planning Team in planning processes to ensure that County planning decisions represent community interests.

## Resource Efficiency Metrics

As depicted in **Table 5**, state regulations are anticipated to reduce local emissions by 9,480 MTCO<sub>2</sub>e annually in 2020, while the REP policies would contribute an additional annual GHG emissions reduction of 27,120 MTCO<sub>2</sub>e. In total, implementation of proposed REP policies would reduce local sources of emissions by 10% below 2005 levels and by 20% below 2010 levels by 2020, meeting the GHG reduction targets established by the County.

**Table 5: 2020 Estimated Emissions Reductions**

Reduction Scenario	MTCO <sub>2</sub> e
2005 Emissions	124,150
2010 Emissions	140,310
2020 GHG Emissions Forecast	148,220
<i>State Regulations</i>	-9,480
<i>REP Policies</i>	-27,120
<b>2020 Estimated Emissions Levels</b>	<b>111,620</b>
<b>% below 2005:</b>	<b>-10%</b>
<b>% below 2010:</b>	<b>-20%</b>

**Figure 12** summarizes the estimated resources that will be saved on an annual basis by 2020 in the unincorporated Mono County community through the implementation of REP goals, policies, and actions.

**Figure 12: 2020 Annual Resource Efficiency Summary**

GHG	<b>-27,120</b>	MTCO <sub>2</sub> e
Electricity	<b>-30,411,980</b>	kWh
Propane	<b>-230,860</b>	gallons
Wood	<b>-4,310</b>	tons
Fertilizer	<b>-12,440</b>	pounds
Waste	<b>-2,700</b>	tons
Water	<b>-100</b>	million gallons
Vehicle fuel	<b>-45,340</b>	gallons
Vehicle use	<b>-9,624,740</b>	VMT





## 4. IMPLEMENTATION

### Monitoring and Updating this Plan

To ensure the success of this REP, the County will integrate the goals, objectives, and policies of this plan into other local and regional plans, and implement the identified actions. As the County moves forward with updating other regulatory and planning documents, such as the General Plan, specific plans, or building regulations, staff will ensure that these documents support and are consistent with the REP.

Implementing the REP will require County leadership to execute the actions and report progress. Many of the actions will be dependent upon the allocation of staff time and resources, and budget prioritization. The plan identifies a responsible department and offers time frames and relative costs associated with each policy. Staff will monitor implementation progress using an implementation and monitoring tool and will report to the Board of Supervisors on annual progress. Monitoring efforts should be conducted at the highest levels of County government, which will help to coordinate monitoring work and ensure that items are being addressed without unnecessary redundancies. As part of annual progress reports, staff will evaluate the effectiveness of each policy to ensure that anticipated emissions reductions are occurring. In the event that reductions do not occur as expected, the County can modify and add policies or actions to ensure the target is achieved.

The following programs are designed to ensure success in implementing the REP.

**Implementation Program 1:** *Annually monitor and report progress toward achieving resource efficiency targets.*

Actions to support Implementation Program 1:

- A. Identify key staff responsible for annual reporting and monitoring.
- B. Use the monitoring and reporting tool to assist with annual reports.



## Mono County Resource Efficiency Plan

---

- C. Prepare an annual progress report for review and consideration by the Regional Planning Advisory Committees, Planning Commission, and Board of Supervisors.

### **Implementation Program 2:** *Update the baseline emissions inventory and REP every five years.*

Actions to support Implementation Program 2:

- A. Prepare an updated emissions inventory before 2020, or as soon as comprehensive information to inventory 2015 GHG emissions is available.
- B. Update the REP no later than 2020 to incorporate new technology, programs, and policies that reduce emissions and consider a reduction target for future horizons consistent with state legislation.
- C. Update and amend the REP, as necessary, should the County find that specific measures are not achieving intended emissions reductions.

### **Implementation Program 3:** *Continue to develop collaborative partnerships with agencies and community groups that support REP implementation.*

Action to support Implementation Program 3:

- A. Continue to participate in local and regional organizations that provide tools and support for energy efficiency, energy conservation, GHG emissions reductions, adaptation, education, and implementation of this plan.

### **Implementation Program 4:** *Pursue funding to implement REP policies and actions.*

Actions to support Implementation Program 4:

- A. Identify funding sources and levels for REP policies and actions as part of annual reporting.
- B. Include REP policies and actions in the capital improvement program and other plans as appropriate.
- C. Pursue local, regional, state, and federal grants to support implementation.

## Tracking Success

An Excel-based monitoring tool has been developed to support effective monitoring and implementation of the REP. The implementation and tracking program identifies the lead department and funding needs for implementation. It also allows the County to track progress in reducing emissions, VMT, waste generation, and energy use over time using readily available data sources.

The tool is an interactive workbook used to collect data, track GHG emissions and resource consumption, and assess the effectiveness of REP policies and actions. It enables the County to sort measures based on timing, responsible department, and level of success, progress, or completion. The tool also includes a dashboard to track measurable data, such as energy use, waste generation, and VMT, over time. The dashboard provides a snapshot of activity and emissions that can assist County staff to provide annual updates on progress toward achieving GHG reduction and resource conservation goals.

## Work Plan

The work plan provided in **Table 6** contains information to support staff and community implementation of the REP policies and actions and to effectively integrate them into budgets, the capital improvement program, and other programs and projects.

Table 6: Mono County Resource Efficiency Plan Work Plan

Goal/Objective/Policy/Action	2020 Emissions Reductions (MTCO <sub>2</sub> e/yr)	Department Lead	County Costs	Applicability	Agency or Organization Partners	Performance Standards (Compared to 2005 baseline)
Conservation and Open Space Element						
Goal CO.1. Improve energy efficiency in existing buildings.						
Objective CO.1.A. Improve the information and support available to residential and nonresidential property owners to reduce energy use.						
Policy CO.1.A.i. Work with nonprofits and utility providers to provide property owners with technical assistance, energy efficiency programs, and financial incentives.	-3,420	Community Development - Planning	Low	Existing Development	SCE, Eastern Sierra Energy Initiative	10,000 light bulbs given away
						750 owner-occupied houses retrofitted
						120 businesses retrofitted
Policy CO.1.A.ii. Provide green building information and resources in a publicly available format, such as a dedicated page on the County website.	-340	Community Development - Building	Low	Existing Development	SCE, Eastern Sierra Energy Initiative, IMACA	500 weatherized houses
Objective CO.1.B. Increase the number of programs available and accessibility to capital to assist residential and nonresidential properties with implementation of resource-efficient practices.						
Policy CO.1.B.i. Provide programs and information to reduce existing energy use.	-3,840	Community Development - Planning	Low	Existing Development	GBUAPCD	1,200 woodstoves replaced
						200 owner-occupied PACE retrofits
						200 rental home PACE retrofits
Policy CO.1.B.ii. Encourage energy-efficient measures and practices through standard County programs, such as well and building permits.	-410	Community Development - Planning	Low	Existing Development	SCE, Eastern Sierra Energy Initiative	140 well pumps replaced
						600 residential HVAC upgrades
						160 nonresidential HVAC upgrades
						50 residential time of sale retrofits
Policy CO.1.B.iii. Provide incentives and information to support upgrades to rental properties, non-primary housing, and other types of housing.	-1,720	Community Development - Planning	Medium	Existing Development	SCE, Eastern Sierra Energy Initiative	10 nonresidential time of sale retrofits
						950 rental home retrofits
						380 mobile home retrofits
Objective CO.1.C. Reduce energy use in existing County facilities.						
Policy CO.1.C.i. Continue progress toward net zero energy use in County facilities.	-410	Public Works - Facilities	High	County Operations	SCE	50% of County buildings with cool roofs installed
						75% of County buildings converted to efficient appliances
						100% of County buildings implementing low-cost solutions (e.g., more efficient lights and smart power strips)
						100% of County buildings using daylighting
Policy CO.1.C.ii. Continue to manage maintenance and ongoing programs that support energy reduction.	-360	Public Works - Facilities	High	County Operations	SCE	100% of County buildings retrocommissioned
						100% of County buildings using energy monitoring
						100% of County buildings using light sensors

Mono County Resource Efficiency Plan

Goal/Objective/Policy/Action	2020 Emissions Reductions (MTCO <sub>2</sub> e/yr)	Department Lead	County Costs	Applicability	Agency or Organization Partners	Performance Standards (Compared to 2005 baseline)
<b>Goal CO.2. Reduce energy use in new construction and major renovations.</b>						
<i>Objective CO.2.A. Increase green building practices in new construction and major renovations.</i>						
Policy CO.2.A.i. Support and promote residential and nonresidential green building construction.	-150	Community Development - Planning	Low	New Development	SCE	40 new residential buildings built to above Title 24 standards 15 new nonresidential buildings built to above Title 24 standards
Policy CO.2.A.ii. Continue to transition to green building practices in new County facilities.	-310	Public Works - Facilities	High	New Development	SCE	50% reduction in energy use (from typical building design)
<b>Goal CO.3. Preserve open space and agriculture to sequester carbon and promote local food production.</b>						
<i>Objective CO.3.A. Improve the health and resilience of the natural and agricultural landscape.</i>						
Policy CO.3.A.i. Maintain open space and manage open space from fire and erosion.	—	Community Development - Planning	Low	n/a	Bureau of Land Management, US Fire Service, Mammoth Lakes Fire Protection District	none (supportive policy)
Policy CO.3.A.ii. Encourage other programs that protect natural areas.	—	Community Development - Planning	Low	n/a	Bureau of Land Management, US Fire Service, Mammoth Lakes Fire Protection District	none (supportive policy)
Policy CO.3.A.iii. Support optimal agricultural practices.	-20	Agricultural Commissioner	Low	n/a	UC Cooperative Extension	fertilizer best practices implemented
<b>Goal CO.4. Encourage appropriately-scaled renewable energy generation for use within the county.</b>						
<i>Objective CO.4.A. Increase renewable energy generation that is consistent with the county's visual and aesthetic qualities and values.</i>						
Policy CO.4.A.i. Support and incentivize residential and nonresidential distributed renewable energy generation.	-5,380	Community Development - Planning	Medium	New and Existing Development	SCE	1,500 solar installations
Policy CO.4.A.ii. Encourage community-scale (<3 MW) renewable energy development on suitable lands, such as a biomass co-generation facility.	-170	Community Development - Planning	Medium	n/a	Bureau of Land Management, GC Forest Products, Inc., Inyo National Forest, Mammoth Lakes Fire Protection District, Mammoth Mountain Ski Area, Sierra Nevada Conservancy, and SCE	1 MW biomass facility

Goal/Objective/Policy/Action	2020 Emissions Reductions (MTCO <sub>2</sub> e/yr)	Department Lead	County Costs	Applicability	Agency or Organization Partners	Performance Standards (Compared to 2005 baseline)
Goal CO.5. Reduce generation of waste within the county.						
Objective CO.5.A. Reduce waste deposited in the county’s landfills.						
Policy CO.5.A.i. Increase composting and recycling programs, and reduce waste generation, throughout the county.	-2,280	Public Works - Solid Waste	High	n/a	Town of Mammoth Lakes, Sierra Conservation Project	65% diversion rate
Policy CO.5.A.ii. Promote a standard of reduce, reuse, and recycle within County government operations.	-20	Public Works - Solid Waste	Low	County Operations	n/a	20 tons (25%) of paper reduced
Policy CO.5.A.iii. Partner with other agencies, such as the Town of Mammoth Lakes, on green procurement, waste reduction, and recycling activities.	—	Public Works - Solid Waste	Low	n/a	Town of Mammoth Lakes, Sierra Conservation Project	none (supportive policy)
Objective CO.5.B. Reduce greenhouse gas emissions from County solid waste operations.						
Policy CO.5.B.i. Reduce or offset methane generation from county landfills.	-1,430	Public Works - Solid Waste	High	County Operations	Town of Mammoth Lakes	13% reduction in methane generation (town and county)
Goal CO.6. Ensure a sustainable long-term supply of water, and meet or exceed applicable water quality standards.						
Objective CO.6.A. Protect and conserve water resources throughout communities.						
Policy CO.6.A.i. Encourage reduced water consumption in residential and nonresidential properties.	-40	Community Development - Planning	Low	New and Existing Development	n/a	230 homes with greywater
						10 businesses with greywater
						6,500 water-efficient fixtures
						30% of outdoor area with improved irrigation
Policy CO.6.A.ii. Protect water quality throughout communities.	—	Community Development - Planning	Low	New and Existing Development	n/a	none (supportive policy)
Objective CO.6.B. Promote sustainable alternatives to reduce and treat wastewater.						
Policy CO.6.B.i. Promote energy-efficient wastewater treatment and biosolids recycling practices.	-620	Community Development - Planning	Low	New Development	n/a	8,630 (74%) of residents and tourists on packaged systems
						100% of wastewater system pumps replaced
Goal CO.7. Collaborate with community partners, and empower the public to improve resource efficiency within the county.						
Objective CO.7.A. Leverage resources regionally to build capacity for resource efficiency programs.						
Policy CO.7.A.i. Work with local schools to support educational opportunities that promote resource efficiency.	—	Community Development - Planning	Low	n/a	Mono County Office of Education	none (supportive policy)
Policy CO.7.A.ii. Collaborate with local, state, and regional agencies and organizations to identify resource conservation opportunities and share information.	—	Community Development - Planning	Low	n/a	Town of Mammoth Lakes, Caltrans, Bureau of Land Management, Inyo National Forest	none (supportive policy)
Policy CO.7.A.iii. Support and participate in the outreach, education, and collaboration efforts of the Eastern Sierra Energy Initiative partnership.	—	Energy Task Force	Low	n/a	SCE, Eastern Sierra Energy Initiative	none (supportive policy)

Goal/Objective/Policy/Action	2020 Emissions Reductions (MTCO <sub>2</sub> e/yr)	Department Lead	County Costs	Applicability	Agency or Organization Partners	Performance Standards (Compared to 2005 baseline)
Circulation Element/RTP						
Goal C.1. Improve connectivity and efficiency of resident and employee transportation within the county.						
Objective C.1.A. Expand resident and visitor transportation options.						
Policy C.1.A.i. Provide for viable alternatives to travel in single-occupancy vehicles.	-3,320	Community Development - Planning	High	New and Existing Development	n/a	See supporting transportation and land use analysis – Appendix A
Policy C.1.A.ii. Improve efficiency of County fleet operations.	-240	Public Works - Roads	High	County Operations	n/a	50% of County vehicles replaced
Policy C.1.A.iii. Reduce vehicle miles traveled from employee commutes and County operations.	-160	Community Development - Planning	Low	County Operations	n/a	10% of County employees telecommuting
Policy C.1.A.iv. Encourage the use of alternative fuels in County operations and throughout the community.	—	Community Development - Planning	Medium	County Operations	n/a	See supporting transportation and land use analysis – Appendix A
Policy C.1.A.v. Improve public transportation infrastructure.	—	Community Development - Planning	Medium	New and Existing Development	Eastern Sierra Transit Authority, Yosemite Area Regional Transportation System	See supporting transportation and land use analysis– Appendix A
Policy C.1.A.vi. Implement engineering and enforcement solutions to improve vehicle fuel efficiency.	—	Community Development - Planning	Medium	New and Existing Development	Caltrans	See supporting transportation and land use analysis– Appendix A
Land Use Element						
Goal LU.1: Promote compact, efficient, and contiguous development in the unincorporated county.						
Objective LU.1.A. Reduce vehicle miles traveled through efficient land use patterns.						
Policy LU.1.A.i. Concentrate new growth and development within existing community planning areas.	-1,990	Community Development - Planning	Medium	New Development	n/a	See supporting transportation and land use analysis – Appendix A
	-40					30,000 acres in resource conservation or conservation easements
Policy LU.1.A.ii. Concentrate future tourist-serving and nonresidential development around existing and planned transportation routes and stops.	-450	Community Development - Planning	Low	New Development	n/a	2% transit mode share of future development
Goal LU.2: Evaluate greenhouse gas emissions, and plan for mitigating and adapting to climate change.						
Objective LU.2.A. Increase greenhouse gas emission mitigation and adaptation planning efforts.						
Policy LU.2.A.i. Reduce greenhouse gas emissions through local land use and development decisions, and collaborate with local, state, and regional organizations to promote sustainable development.	—	Community Development - Planning	Low	n/a	n/a	none (supportive policy)





## 5. SOURCES

Barager, Cedar. 2013. Mono County. Attached image [of refrigerant use] (e-mail). August 18.

CalRecycle (California Department of Resources Recycling and Recovery). Disposal Reporting System. <http://www.calrecycle.ca.gov/lgcentral/drs/>

Caltrans (California Department of Transportation). 2012. California Economic Forecasts by County, 2012–2040. Sacramento.

[http://www.dot.ca.gov/hq/tpp/offices/eab/socio\\_economic\\_files/2012/2012\\_Socio-Eco\\_County\\_Forecasts\\_Full\\_Report.pdf](http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic_files/2012/2012_Socio-Eco_County_Forecasts_Full_Report.pdf).

CARB (California Air Resources Board). 2003. *Livestock Population Methodology*. <http://www.arb.ca.gov/ei/areasrc/lstkpoppmeth.pdf>.

———. 2007. OFFROAD 2007, Version 2.0.1.2. <http://www.arb.ca.gov/msei/offroad/offroad.htm>.

———. 2008 AB 32 Scoping Plan. Sacramento. <http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>.

———. 2010. Local Government Operations Protocol for the quantification and reporting of greenhouse gas emissions inventories, version 1.1.

———. 2011. ARB Landfill Emissions Tool. <http://www.arb.ca.gov/cc/protocols/localgov/localgov.htm>.

———. 2011. *Documentation of California's Greenhouse Gas Inventory: Agriculture, Forestry, and Other Land Use*: Nitrogen applied in fertilizer – Synthetic fertilizers: Nitrous oxide (N<sub>2</sub>O). [http://www.arb.ca.gov/cc/inventory/archive/doc90/docs3/3c4\\_fertilizernitrogen\\_syntheticfertilizers\\_n2o\\_1990.htm](http://www.arb.ca.gov/cc/inventory/archive/doc90/docs3/3c4_fertilizernitrogen_syntheticfertilizers_n2o_1990.htm).

———. 2013. *California Greenhouse Gas Inventory for 2000–2010 – by Category as Defined in the Scoping Plan*. [http://www.arb.ca.gov/cc/inventory/data/tables/ghg\\_inventory\\_scopingplan\\_00-10\\_2013-02-19.pdf](http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-10_2013-02-19.pdf).



## Mono County Resource Efficiency Plan

---

- . 2013. EMFAC2011.  
[http://www.arb.ca.gov/msei/modeling.htm#emfac2011\\_web\\_based\\_data](http://www.arb.ca.gov/msei/modeling.htm#emfac2011_web_based_data).
- . 2014a. California Greenhouse Gas Inventory for 2000–2012.  
[http://www.arb.ca.gov/cc/inventory/data/tables/ghg\\_inventory\\_scopingplan\\_00-12\\_2014-03-24.pdf](http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-12_2014-03-24.pdf).
- . 2014b. First Update to the Climate Change Scoping Plan.  
[http://www.arb.ca.gov/cc/scopingplan/2013\\_update/first\\_update\\_climate\\_change\\_scoping\\_plan.pdf](http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf).
- CEC (California Energy Commission). 2006. *Refining Estimates of Water-Related Energy Use in California*. <http://www.energy.ca.gov/2006publications/CEC-500-2006-118/CEC-500-2006-118.PDF>.
- Counties of Inyo and Mono Agriculture Department. 2006. *2005 Agriculture Crop and Livestock Report*. <http://www.inyomonoagriculture.com/uploads/2/9/2/1/2921614/2005croprpt.pdf>.
- . 2011. *2010 Crop and Livestock Report*.  
<http://www.inyomonoagriculture.com/uploads/2/9/2/1/2921614/croreport2010.pdf>,
- CTTC (California Travel and Tourism Commission). 2011. *2010 Annual Report on Travel Impacts by County*.
- . 2012. *California Travel Impacts by County, 1992–2010, 2011 Preliminary State & Regional Estimates*. [http://industry.visitcalifornia.com/media/uploads/files/editor/2011\\_California\\_Economic\\_Impact.pdf](http://industry.visitcalifornia.com/media/uploads/files/editor/2011_California_Economic_Impact.pdf).
- . 2013. *California Travel Impacts by County, 1992–2011*.  
<http://industry.visitcalifornia.com/media/uploads/files/editor/Research/CATravelImpacts2012.pdf>
- deBethizy, Heather. 2013. Mono County. County heavy equipment fuel 2010 (e-mail). August 6.
- DOF (California Department of Finance). 2012. *E-4 Population Estimates for Cities, Counties, and the State, 2001 – 2010, with 2000 & 2010 Census Counts*.  
<http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/2001-10/>.
- . 2013. *Report P-1: Summary Population Projections by Race/Ethnicity and by Major Age Groups*. <http://www.dof.ca.gov/research/demographic/reports/projections/p-1/>.
- EDD (California Employment Development Department). 2012. Labor Market Information for the Eastern Sierra Region Industry Employment Projections Table 2008–2018. Sacramento.  
<http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133>.
- EIA (US Energy Information Administration). 2011. Table CT1: Energy Consumption Estimates for Major Energy Sources in Physical Units, Selected Years, 1960–2011, California.  
[http://www.eia.gov/state/seds/sep\\_use/total/pdf/use\\_CA.pdf](http://www.eia.gov/state/seds/sep_use/total/pdf/use_CA.pdf).
- . 2013. Table HC.1.11: Fuels Used and End Uses in Homes in West Region, Divisions, and States, 2009.  
<http://www.eia.gov/consumption/residential/data/2009/xls/HC1.11%20Fuels%20Used%20and%20End%20Uses%20in%20West%20Region.xls>.
- . n.d. Table HC15.4: Space Heating Characteristics by Four Most Populated States, 2005.  
<http://www.eia.gov/consumption/residential/data/2005/hc/hc4spaceheating/excel/tablehc15.4.xls>.
- Heaney, James P., et al. 1998. *Nature of Residential Water Use and Effectiveness of Conservation Programs*. <http://bcn.boulder.co.us/basin/local/heaney.html>.

- ICF International. 2010. *2010 Propane Market Outlook: Assessment of Key Market Trends, Threats, and Opportunities Facing the Propane Industry Through 2020*.  
[http://www.afdc.energy.gov/uploads/publication/2010\\_Propane\\_Market\\_Outlook\\_Final.pdf](http://www.afdc.energy.gov/uploads/publication/2010_Propane_Market_Outlook_Final.pdf).
- . 2010. County Residential Propane Model, version 3.2.
- . 2013. *2013 Propane Market Outlook: Assessment of Key Market Trends, Threats, and Opportunities Facing the Propane Industry Through 2020*.  
[http://www.afdc.energy.gov/uploads/publication/2013\\_Propane\\_Market\\_Outlook\\_1\\_.pdf](http://www.afdc.energy.gov/uploads/publication/2013_Propane_Market_Outlook_1_.pdf).
- ICLEI (ICLEI-Local Governments for Sustainability). 2012. US Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, version 1.0.
- . Climate and Air Pollution Planning Assistant (CAPPA), version 1.5.
- Kuhns, Michael, and Tom Schmidt. *Heating with Wood: Special Characteristics and Volumes*.  
<http://forestry.usu.edu/htm/forest-products/wood-heating/>.
- Liberty Utilities. 2013. *2011 Mono County kWh Usage Analysis*.
- MCWD (Mammoth Community Water District). 2005. *Groundwater Management Plan for the Mammoth Basin Watershed*. <http://www.water.ca.gov/urbanwatermanagement/2010uwmps/Mammoth%20Community%20Water%20District/FINAL%20GWMP%202005.pdf>.
- . 2011. *2010 Urban Water Management Plan*.  
<http://www.mcwd.dst.ca.us/2010%20Final%20UWMP%20reduced.pdf>
- Meyer, Roland D., Daniel B. Marcum, Steve B. Orloff, and Jerry L. Schmierer. 2007. *Alfalfa Fertilization Strategies*.  
[http://alfalfa.ucdavis.edu/IrrigatedAlfalfa/pdfs/UCAlfalfa8292Fertilization\\_free.pdf](http://alfalfa.ucdavis.edu/IrrigatedAlfalfa/pdfs/UCAlfalfa8292Fertilization_free.pdf).
- Molina, Louis. 2013. Mono County. Wells & septic systems (e-mail). September 13.
- Mono County. 2008. *Economic Impact Visitor Profile Study*.
- . 2009. *County of Mono Facility Needs Assessment Report*.
- . n.d. Mono County Facilities Address and Contact List.  
[http://www.monocounty.ca.gov/sites/default/files/fileattachments/public\\_works\\_-\\_facilities/page/730/facilitiesaddresslist.pdf](http://www.monocounty.ca.gov/sites/default/files/fileattachments/public_works_-_facilities/page/730/facilitiesaddresslist.pdf).
- . 2014. Mono County General Plan. Bridgeport, CA.  
<http://www.monocounty.ca.gov/planning/page/general-plan>
- . 2013. Mono County Regional Transportation Plan. Bridgeport, CA.  
[http://www.monocounty.ca.gov/sites/default/files/fileattachments/local\\_transportation\\_commission\\_ltc/page/343/2013\\_rtp\\_12.9.2013.pdf](http://www.monocounty.ca.gov/sites/default/files/fileattachments/local_transportation_commission_ltc/page/343/2013_rtp_12.9.2013.pdf)
- Mono County Department of Economic Development and Special Projects. 2009. *The Economic & Fiscal Impacts and Visitor Profile of Mono County Tourism in 2008*.  
[http://www.monocounty.ca.gov/sites/default/files/fileattachments/economic\\_development\\_and\\_special\\_projects/page/234/monoeconomicimpactvisitorprofilestudy.pdf](http://www.monocounty.ca.gov/sites/default/files/fileattachments/economic_development_and_special_projects/page/234/monoeconomicimpactvisitorprofilestudy.pdf).
- Mono County Local Agency Formation Commission. 2009. *Municipal Service Review and Sphere of Influence Recommendation: Hilton Creek CSD. Bridgeport, CA*.  
[http://www.monocounty.ca.gov/sites/default/files/fileattachments/local\\_agency\\_formation\\_commission\\_lafoo/page/1058/hiltoncreekcommunityservicesdistrict\\_02.2009.pdf](http://www.monocounty.ca.gov/sites/default/files/fileattachments/local_agency_formation_commission_lafoo/page/1058/hiltoncreekcommunityservicesdistrict_02.2009.pdf).
- . 2009. *Municipal Service Review and Sphere of Influence Recommendation: June Lake PUD. Bridgeport, CA*.  
[http://www.monocounty.ca.gov/sites/default/files/fileattachments/local\\_agency\\_formation\\_commission\\_lafoo/page/1058/junelakepublicutilitydistrict\\_02.2009.pdf](http://www.monocounty.ca.gov/sites/default/files/fileattachments/local_agency_formation_commission_lafoo/page/1058/junelakepublicutilitydistrict_02.2009.pdf).

## Mono County Resource Efficiency Plan

---

- . 2009. *Municipal Service Review and Sphere of Influence Recommendation: Lee Vining PUD. Bridgeport, CA.*  
([http://www.monocounty.ca.gov/sites/default/files/fileattachments/local\\_agency\\_formation\\_commission\\_lafrco/page/1058/leeviningpublicutilitydistrict\\_02.2009.pdf](http://www.monocounty.ca.gov/sites/default/files/fileattachments/local_agency_formation_commission_lafrco/page/1058/leeviningpublicutilitydistrict_02.2009.pdf)).
- . 2010. *Municipal Service Review and Sphere of Influence Recommendation: Bridgeport PUD. Bridgeport, CA.*  
[http://www.monocounty.ca.gov/sites/default/files/fileattachments/local\\_agency\\_formation\\_commission\\_lafrco/page/1058/bppud10.062010.pdf](http://www.monocounty.ca.gov/sites/default/files/fileattachments/local_agency_formation_commission_lafrco/page/1058/bppud10.062010.pdf).
- NASS (National Agricultural Statistics Service). 1991. *Agricultural Chemical Usage, 1990 Vegetables Summary, Part 2.*  
[http://usda01.library.cornell.edu/usda/nass/AgriChemUsVeg//1990s/1990/AgriChemUsVeg-06-30-1990\\_summary.txt](http://usda01.library.cornell.edu/usda/nass/AgriChemUsVeg//1990s/1990/AgriChemUsVeg-06-30-1990_summary.txt).
- SCE (Southern California Edison). 2013. *Summary of Results (January 1, 2005–December 31, 2005), Unincorporated Mono County.*
- . 2013. *Summary of Results (January 1, 2010–December 31, 2010), Unincorporated Mono County.*
- Sugimura, Wendy. 2013. Mono County. Sheriff propane data (e-mail). August 19.
- . 2013. Mono County. [Commute] survey (e-mail). August 22.
- University of California Cooperative Extension. 2010. *Sample Costs to Establish a Vineyard and Produce Winegrapes: Cabernet Sauvignon.*  
<http://coststudies.ucdavis.edu/files/grapewinesonoma2010.pdf>.
- . 2012. "Fertilizing Vegetables."  
[http://sfp.ucdavis.edu/pubs/Family\\_Farm\\_Series/Veg/Fertilizing/vegetables](http://sfp.ucdavis.edu/pubs/Family_Farm_Series/Veg/Fertilizing/vegetables).
- US Census Bureau. 2010. 2006–2010 American Community Survey 5-Year Estimates, House Heating Fuel: Table B25040.
- Whittman, Ken. 2013. Liberty Utilities. Mono County usage request (e-mail). August 1.



## A. TECHNICAL MEMOS

- **Baseline GHG Inventory**
- **GHG Emissions Forecast**
- **REP Policy Analysis**